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The OIL AND GAS JOURNAL

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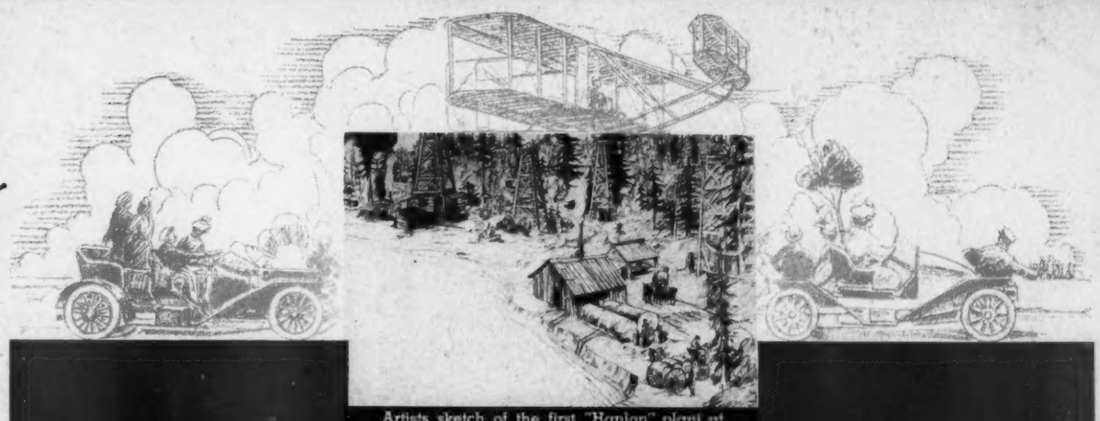

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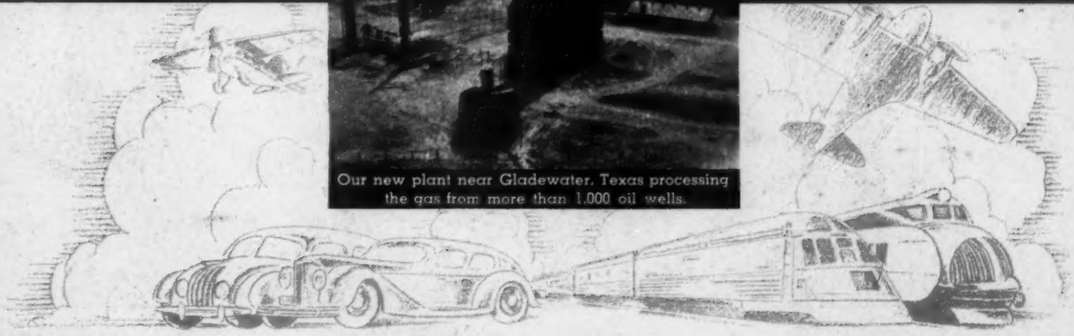

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PETROLEUM RECTIFYING COMPANY OF CALIFORNIA

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General

THE OIL AND GAS JOURNAL

Volume 33
Number 11

August 2, 1934

SUBSCRIPTION RATES: Domestic, 1 year, $6; 6 months, $3. Canadian and foreign, 1 year, $7; 6 months, $3.50. All subscriptions payable in advance. When extra copies of special issues are available they are reserved for subscribers' needs and may be bought by subscribers at 50 cents each

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Oil Industry Can Maintain Improved Conditions if Enforcement of Regulations Is Made Effective

By ANDREW M. ROWLEY

DOUBT as to the effectiveness of present efforts to stabilize conditions in the petroleum industry still permeates a fairly large part of the business although it is admitted generally conditions are much better than they would be were it not for these efforts. Crude oil prices have been maintained and the refined oil market, while far from satisfactory, has held at a better level than would have obtained.

The beginning of August is a good time to take stock of present conditions and gauge future plans accordingly. Two factors of paramount importance deserve especial attention in considering the outlook and arranging operations. They are overproduction of both crude oil and gasoline and the effect the nation-wide drought will have on consumption. A record breaking demand for gasoline cannot be expected to continue so increased efforts should be made to hold crude oil production to consumer requirements and, at least, within striking distance of allowables.

Tightening of government regulations and the revenue act covering taxes on crude oil production and runs to stills provide potent weapons in the war on violators of all corrective measures. But many in the industry again are becoming calloused in regard to the effectiveness of production enforcement. Setting new allowables in East Texas still is a mere gesture as far as results are concerned. Hot oil production continues on a scale large enough to be a serious factor in an uncertain market and, despite all the means apparently at hand to control output and runs to stills, violators of regulations and laws continue the even tenor of their ways. The penalty provisions of regulations are good as new for they never have been used.

Not many in the refinery branch of the industry were surprised when it was discovered sales of gasoline in East Texas by those signing the agreement not to process hot oil were in excess of the quantity which could be made from their crude oil allocations. This does not mean that a large proportion of signers of the agreement are not living up to the letter and spirit of their promises. They are but it seems time to clamp down on known violators. Those abiding by the agreement deserve protection and such protection can only be afforded by exposing those who regard signed agreements as mere scraps of paper.

First half of the year earnings of oil companies show a substantial improvement. The industry is not in bad shape at all but it is at just such a time that every effort be made to eliminate any possibility of a recurrence of former conditions.

Crude Oil Production in the United States

Estimated daily average production for the week ending July 28, a comparison with previous week and the Federal allowables follow:

		Federal allowable	
Oklahoma—	July 28	July	July 21
Oklahoma City	154,595	.....	190,135
Seminole-St. Louis	99,050	.....	104,480
Remainder of State	238,085	.....	241,060
Total Oklahoma	491,730	489,500	535,675
East Texas—			
Lathrop	230,340	.....	223,530
Kilgore	167,420	.....	162,470
Joiner	149,390	.....	144,950
Total East Texas	547,150	.....	530,950
West Texas	141,265	.....	141,165
North Central Texas	92,448	.....	92,195
Texas Panhandle	62,754	.....	61,558
East Central Texas	51,550	.....	50,713
Gulf Coast—Texas	170,405	.....	170,305
Southwest Texas	56,246	.....	56,750
Total State of Texas	1,121,818	1,042,100	1,103,636
Kansas	136,755	134,500	135,535
North Louisiana	24,555	.....	24,855
Gulf Coast—Louisiana	73,615	.....	70,210
Total Louisiana	98,170	.....	95,065
Arkansas	32,065	.....	31,820
Eastern Fields (except Michigan)	104,000	108,900	107,000
Michigan	30,616	33,200	29,623
Rocky Mountain area	96,430	90,800	96,520
California—			
Santa Fe Springs	40,700	.....	41,750
Long Beach	67,000	.....	68,000
Mountain View	6,150	.....	6,200
Elwood	11,900	.....	11,400
Kettleman Hills	72,650	.....	76,500
Remainder of State	319,850	.....	327,650
Total California	518,250	500,400	531,500
Total United States	2,629,834	2,530,300	2,606,374

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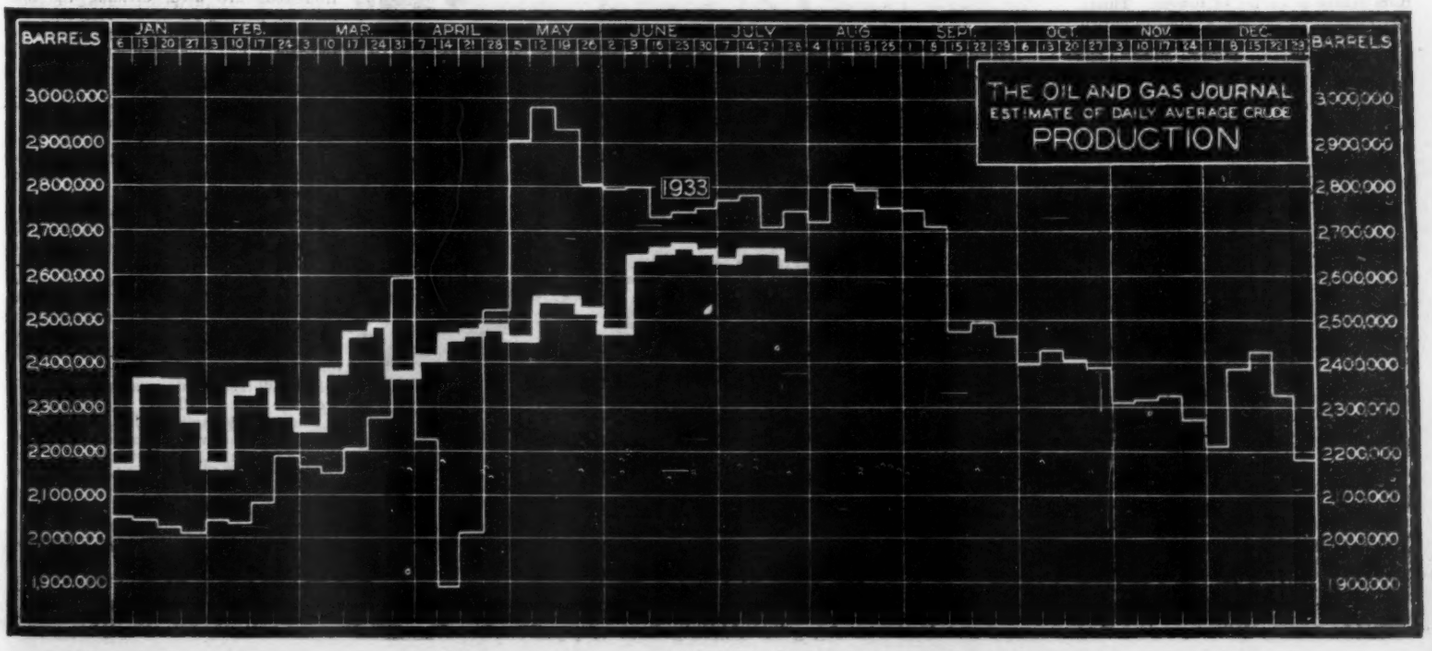


Pipe Line Suspension Bridge Built Near Hominy, Okla., Embodies Novel Structural Features

By L. G. E. BIGNELL
Petroleum Engineering Editor

To the layman all pipe line suspension bridges look very much alike but to the bridge and pipe line engineers there are many details in design and construction that distinguishes one type bridge from another. For pipe line water crossings simplicity is one of the principal essentials, and there are many suspension type bridges of simple design erected over streams along the trunk lines of transcontinental pipe line systems that have been designed and erected by the engineering staff of the pipe line dpartments.

One type bridge is shown in the accompanying picture and it is located about a quarter of a mile north of the Hominy, Okla., pump station on the main line of the Stanolind Pipe Line Co.'s trunk line running from Oklahoma eastward. This is known as the crossing over the Big Hominy Creek and the installation has recently been completed and painted. The work was all carried on by the construction department of the Stanolind Pipe Line Co. with J. J. Boyd, engineer in the pipe line department directing the erection after he had made the design.

The bridge is constructed to carry one 8, one 10 and one 12-inch welded pipe line across this stream and is unique in that these three lines enter the bridge at ground level on the south bank of the stream and cross to the north side where the lines descend to the ground level through 17-foot offset reverse bends. The accompanying picture is taken from the north shore looking south.

The layout of these reverse bends provides for expansion and contraction of pipe exposed on the bridge. There is 210 feet of this pipe line laid on the bridge, which is actually 240 feet long from center to center of towers. Thirty feet of pipe on the south bank is buried in the pipe line ditch that was excavated between the concrete pedestals upon which the south tower rests.

The distance between towers is 240 feet as stated above and the south tower is 20 feet high above the top of the concrete foundations and is constructed of 6-inch line pipe that has been reclaimed from old pipe lines and reconditioned. Both towers were made by welding. The north tower is 36 feet high above foundations and is made out of 8-inch Grade A reclaimed pipe also. All braces on both towers are made from 3-inch pipe. The floor of the bridge is 7 feet above high water and about 23 feet above normal creek level.

Bridge Cable

There are two commonly used methods of carrying cables over the towers of pipe line bridges. Each design provides a means of taking care of the movement caused by the expansion and contraction of the steel cables due to heating and cooling under weather conditions. These cables in either type construction are firmly anchored in buried "dead men" at each end of the bridge and there is very alight movement in the cables between the top of the towers and the anchors.

The length of the cables varies and one type of construction provides for rigid towers with the cables carried over them on rollers so mounted that they will make a partial revolution as the cables lengthens or shortens. The movement of the rollers is very slight but they are used to allow the cables to adjust themselves without any movement in the towers.

The second type of design, of which this Big Hominy Creek bridge is an example, provides that the cables fit snugly in "cable saddles" that are attached in a rigid manner to the top member of the towers. The weight of the bridge and the live load crossing it hold the cables firmly in the cable saddle grooves and create enough friction to prevent any slipping of the cables over these points and the contraction or expansion is compensated for by swaying of the towers.

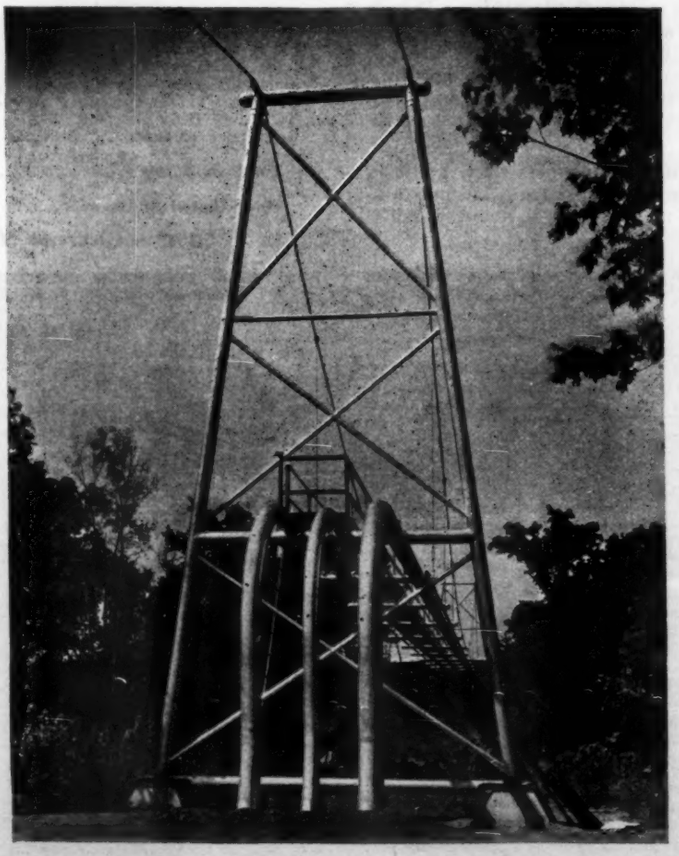
These steel towers are made with the lower cross members of pipe supported in grooves formed in the upper surface of the concrete pedestals upon which the towers rest. Side movement of the towers is limited by a stop attached to the 8-inch pipe base member on the north tower on downstream side so that debris carried downstream at high water will not shift the towers. The south tower is above high water so no side stop is necessary.

With the two cables, made from 1⅜-inch single strand galvanized plow steel bridge cable, 37 wires each, carried over the top of the towers and resting upon cable saddles with 4-foot radius that fit the lower half of the cable snugly the towers will rock slightly in the grooves in which the base members rest. As the base members are of 6 and 8-inch pipe they provide the round bearing needed to permit this rocking movement which is estimated not to exceed 1¼-inch total, at the top of either tower. While this may seem a small movement in a 240-foot bridge span it is sufficient to cause damage if not compensated for in some manner. It is estimated that the total lift in the center of the bridge between towers will not exceed 6 inches vertically, due to extreme temperature changes.

Anchor and Saddle Details

The main cable sizes are determined after the engineers have calculated the load the bridge will be required to carry, the expansion and contraction that will probably occur under changes of temperature, taken in this instance as from 10 degrees below zero to 150 degrees above zero, the latter figure being the total heat absorbed at atmosphere temperatures ranging up to 120 degrees, and have accounted for wind loading and other causes for strains and stresses in the structure.

As stated this bridge is equipped with two 1⅜-inch diameter single strand galvanized plow steel bridge cables, each made from 37 strands of wire and having a working load of 46,000 pounds and a breaking load of 210,000 pounds. These cables and some other material used on this bridge were supplied by Williamsport Wire Rope Co., Williamsport, Pa.



Stanolind Pipe Line Co.'s Big Hominy Creek suspension bridge taken from north bank showing general arrangement of pipes and tower

These cables are anchored at each end in buried concrete blocks that are reinforced with three-fourth-inch steel bars and each block is 4½ feet square by 16 feet long. They are buried 3 feet below the surface of the ground. The estimated weight of each block of concrete is 23 tons. Eye-bars 2½-inch diameter, 22 feet 6 inches long for the south end and 28 feet 10 inches long for the north end are embedded in the concrete blocks with 1x8x8-inch plate washers for bearings.

Where the eye-bars are embedded in the soil they are surrounded with concrete filled 6-inch pipe to retard corrosion and in addition all eye-bars and other parts are galvanized.

The slope of the eye-bars and cables from anchors to the top of the towers has a 1 to 3 ratio. Between eye-bar ends and cables Williamsport take-up sockets, open pattern, are used to adjust tension in cables. The distance from south anchor to top of tower is approximately 88 feet measured along the cables and on the north end this similar distance is 135 feet.

The cable saddles over which the cables pass at the top of the towers are laid out on a 4-foot radius and are constructed out of 1x1⅝-inch bars bent to the 4-foot radius and to the sides of these bars are welded ½x6-inch iron strips to serve as cheek plates. Between the upper end of these side strips one-half of 1¼-inch pipes bent to the proper radius are welded to receive the 1⅜-inch diameter cables. Internal diameter of 1¼-inch black pipe is 1.38 inches diameter of cables is 1.375 inches. This pipe is the proper diameter to give support to the cables on their lower halves where they rest in these saddles and the friction between cable and the walls of the pipe prevents the cables from slipping and causes the towers to move as desired.

Suspenders

To carry the three pipe lines and the walkway, 10 suspenders made from three-quarters inch diameter galvanized iron rods are used, dividing the span into 11 panels, 10 at 20 feet long and 1 at 40 feet long. The long panel is at the south end of the bridge where the pipe lines are buried.

These suspenders are attached to the cables with Williamsport double clamp cable fittings designed for three-quarters inch rods and 1⅜-inch cables. The turnbuckles used between the upper and lower portions of the suspenders have 12-inch take-up and in the lower end of these turnbuckles hook bolts are screwed. These hook bolts fit into five-eighths inch diameter round iron loops that pass completely around the 6-inch pipe floor beams upon which the three pipe lines rest and are welded to the pipe in three places. The total length of the beams is 9 feet. The 6-inch beams are spaced with 3-inch pipe laid on and welded to the top of the beam.

The 30-inch wide walkway is built over the 8 and 10-inch pipe lines and is made of 2½ and 3½-inch angles. The uprights of the walk frame are tacked to the sides of the 8 and 10-inch lines and also to the 6-inch cross beams but to compensate for any expansion or contraction in the walk or the pipe the side members and handrails of the walk are provided with slotted connections over the fifth pipe beam from the south tower. The floor in the walkway is made from three-quarters inch Truscon Plategrid grating. At the north end of the walk-

(Continued on Page 31)

Efforts to Stop "Hot" Oil Approaching Climax; Co-operative Survey on Margins Authorized

By HUGH D. MALLON
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., July 30.—The efforts of the petroleum administration to stop the production of "hot" oil, have about reached a climax. The recently enacted revisions of the "hot" oil regulations, the regulations which it is expected the Bureau of Internal Revenue will announce within the next 10 days to govern the collection of the tenth of a cent per barrel tax on crude oil and the further tax of a like amount on refined oil, the so-called "hot" oil contracts which certain refiners in East Texas have entered into for the sale of surplus storage gasoline, and lastly, the promulgation of a new form of contract for the purchase of current production of gasoline, all are expected to make the way of the transgressor harder. It is believed that practically all of the producers who have in the past flouted the orders of the administrator and of state regulatory bodies will stop and think before any attempt is made to disobey the barrage of safeguards which are being built up to stop the flow of illegally produced oil.

Announcement of the new form of contract is expected to be made within the next day or two. Provision will be made in these contracts, which are for currently produced gasoline and not storage stocks, that the seller agrees not to run more than his allowable gasoline production in the future and that he will not at any time run "hot" oil through his refinery. These contracts are being promulgated in an attempt to regulate and control the activities of those individuals and companies who have questioned the validity of the actions of the oil administrator and the provisions of the oil code.

Instead of these agreements being a three-party contract, that is the vendor, the vendee, and the administrator parties to the instrument, no ratification by the petroleum administration is necessary. However, the administrator may at any time, when the parties to the contract do not comply with the requirements therein, cancel the contract. The main provisions of the contracts for the purchase of "hot" storage gasoline are in the new instruments, and it has been stated that practically all of those firms whose cause would be prejudiced in the courts if they now recognized the validity of the administrator and the code, have agreed to enter into the agreement and stop the flood of "hot" oil and motor fuel which has been glutting the market.

Survey of Margins

A co-operative survey of price margins granted by distributors of gasoline and other oil products to retail dealers has been announced by Nathan R. Margold, chairman of the Petroleum Administrative Board. The general policy of distributors with respect to the giving of margins will also be included in the survey.

The Marketing Division of the Petroleum Administrative Board will handle the details of this survey through questionnaires which are being sent to refiners and marketers who are representative of the various sizes and classes of the companies engaged in the distribution of petroleum products. It is stressed that the information received from the questionnaires will be confidential and used only by the board in studying the effect of margins and margin policies on the prices of the products involved.

This study, it is believed, is being undertaken because of the claim of some disrtibutors that the retailers are absorbing some of the margin and cutting prices, thereby unstabilizing the retail market and frequently precipitating disastrous price wars which completely demoralize the market in the affected area.

The questions asked are as follows: Do you determine the price policy of service stations supplied by you? If you determine the price policy for one type of service station supplied by you and not for another, what is the approximate percentage in each class? What is the approximate percentage of your total sales of motor fuel through service stations? Do you guarantee a fixed margin on motor fuels sold to service stations? If you guarantee a margin is the margin the same for 100 per cent and split accounts? What is the approximate percentage of your service station accounts to which you guarantee a 3-4-4 margin? Do you write guaranteed contracts for service stations for larger margins than 3-4-4? If you write guaranteed margins in excess of 3-4-4 give examples of characteristic larger margins and approximate percentage of your business so involved? Do you write guaranteed contracts for service stations for smaller margins than 3-4-4? Give examples of such contracts if written. Do you write split margin contracts for service stations? What are the usual terms of such split contracts? What is the approximate percentage of your service station business so involved? Do you sell motor fuel on the open tank car market? What is the approximate percentage of your total sales sold under such conditions?

What is your opinion concerning the desirability or undesirability of guaranteed-margin dealer contracts? What is your opinion concerning guaranteed margins to jobbers? Do you favor split margin contracts with dealers? Do you believe that sales of motor fuel to jobbers and/or dealers should be made without any protective conditions? Why? What do you consider the proper margin for dealer (indicate area)? What do you consider the proper margin for jobbers (indicate area)?

Answers to this questionnaire should be forwarded to the Petroleum Administrative Board on or before August 19, and regardless of whether or not the company addressed cares to answer the questions, the Petroleum Administrative Board requests that the questionnaire be returned with whatever comment the individual cares to make.

More Buying in East Texas

Two more contracts for the purchase of surplus East Texas gasoline have been approved by the Petroleum Administration. This brings to 25 the total of contracts approved to date, those contracts covering a total of 42,400 barrels of gasoline. The two just approved involve the purchase of 1,000 bbls. each from the Overton Refining Co. and the Kilgore Refining Co. The Shell Petroleum Corp. was the purchaser.

Drilling Regulations

Authority has been granted to state drilling practices committee to determine the fair economic cost of drilling in their areas. These findings are subject to review by the administrator, it was announced by the Petroleum Administrative Board.

Provisions governing employes' hours of work was also included in the announcement. It is provided that no employe shall work more than 936 hours in each six months' period. Any employer who permits employes to work beyond the maximum in the six months' period shall be considered a violator of the oil code. No employe shall work more than 48 hours in any seven days and not more than eight hours in any one day, except in case of emergency work, when the working period in any two consecutive days shall not exceed 16 hours. This would allow the employment for a total of 16 hours in one day, but would necessitate that such employe shall lay off on the following day.

Drilling Practices Announced

An interpretation of the drilling practices sections of the code was also announced. The interpretations explain that giving concessions of any kind to aid in securing contract is forbidden. This includes, the order states, "the furnishing of material and services not customary in the particular area." In determining the fair economic cost the committee on drilling practices shall concurrently specify the materials and services which shall go to make up this cost, and shall establish the furnishing of such materials and services as "field practice" for the area in question. Any further materials or services rendered by the contractor must be furnished at a rate commensurate with their value.

Payment for any contract shall be specified in cash or the equivalent of cash. This does not prohibit the receipt of oil payments or interests in leases, etc., provided such returns are accepted at not more than the actual cash value at the time of entering into the contract. The acceptance of petroleum products in payment for the drilling of a well or otherwise is prohibited, when such products are not necessary for the actual drilling or other uses pertinent thereto, regardless of their cash value.

In all contracts entered into with a drilling contractor by a producer there must be a stipulation in the contract that the contractor agrees that his employes or those of any subcontractor shall receive the rates of pay designated by the code for each respective class of work, and shall not work in excess of the schedule of hours in the code.

Kansas Costs

The approval of a recommendation by the Kansas Drilling Practices Committee that fair drilling costs in Zone 3, covering several counties in the state, averaged $3.64 a foot for drilling with steam rotary equipment, was announced by Nathan R. Margold, chairman of the Petroleum Administrative Board, for the Oil Administration. Chairman Margold emphasized that the figure did not constitute price fixing, but was approved as the minimum for negotiations between drilling contractors and producers.

The following counties are in Zone 3: Sedgwick, Harvey, McPherson, Marion, Rice, Reno, Stafford, Ellsworth, Kingman, Barton, Rush, Russell, Ellis, Rooks.

The recommendation of the Kansas committee was approved by the Planning and Co-ordination Committee.

Crude Stock Reports

Form A-947 for the reporting of crude stocks, has been revised to provide for the recording of additional information. The regulations covering reporting on this form remain the same, the information being required under Article 7, Section 6, of the Code.

As now drawn up, this form will supply complete data as to crude stocks by origin (fields and states) and location combined, whereas the old Form A-947 showed stocks by origin and location separately. In reporting on the new form it will no longer be necessary to render

(Continued on Page 51)

Fuel Oil Price Hearing at Washington
Duel of Coal Men and Consumers

WASHINGTON, D. C., July 30.—Arguing that low fuel oil prices have been "raising havoc" with the coal industry, a representative of the National Coal Association today urged an advance in oil prices at a hearing before the Petroleum Administrative Board ordered by Administrator Ickes on the basis of complaints from consumers that fuel oil prices had been boosted unduly.

Allen H. Willett, spokesman for the code association, said coal operators were in a perilous position because markets were slipping to competing products.

Dr. Ruth W. Ayres of the N.R.A. Consumers Advisory Board came back at Willett with a warning that "coal interests are playing with fire in suggesting that competition between industries be regulated by the government."

Earlier, Doctor Ayres contended before the board that a price increase of from 20 to 40 per cent in fuel oil from June, 1933, to June, 1934, was unjustified. Prices at refineries have gone up 114 per cent, she said, and are 127 per cent over their all-time low.

After reading a score of strongly worded complaints from consumers, asserting that present prices "spell disaster," look like a "stickup," or contain a hint of monopoly, Doctor Ayres said:

"Either the price must come down or the industry must show conclusively that the price is indispensable to the recovery of the industry."

Lieut. Charles H. Ritt, U. S. Navy, said prices at Gulf ports had increased from 55 cents to $1.09 per barrel between 1932 and 1934. At San Pedro, Cal., prices had moved from 48½ cents to 69 cents.

Speaking for steamship owners, A. J. Baker of New York said the increased cost of fuel oil was very burdensome, particularly in the "foriegn field." Freight rates have not increased, he said, but fuel oil prices have advanced greatly.

L. M. Betts, voicing the complaints of railways operating oil burning engines, said the Association of Railway Executives wished to present a detailed statement later.

It was announced an extensive brief would be filed by the Planning and Coordination Committee answering the complaints.

Repressuring Project in Red River Field Is Good Example of This Method of Producing Oil

By ERNEST POTTS
Consulting Engineer, Tulsa

The western portion of the Red River oil field is located mainly in the bed of Red River in the surveyed and unsurveyed portions of Sections 7, 8, and 9, Township 5s, Range 14w, Tillman County, Oklahoma. A few of the south leases extend a short distance into Wichita County, Texas, at a point approximately 7 miles northwest of Burkburnett, Tex.

This field has an interesting history. Shortly after the discovery of oil in October, 1929, the title to all the land was disputed and court action started between the States of Oklahoma and Texas. During the litigation the field was developed and operated under a receivership. In 1925 the U. S. Supreme Court rendered a decision defining the south cut bank of Red River as the boundary line between the two States. This decision placed the major part of the field in Oklahoma, and since the strip of land extending from the medial line of Red River to the south cut bank is public domain, placed the greater portion of the field under the supervision of the U. S. Geological Survey. A representative of the U.S.G.S. has been stationed in the field since December, 1925.

The fact that practically all of the wells are located in the bed of Red River has made it necessary to build all derricks, buildings, pipe lines, and other surface equipment on piling to raise them above the flood water level. As a result, operating conditions have been greatly complicated, requiring at times a great deal of resourcefulness on the part of the operators. The construction of jetties and the resulting deposition of sand and silt to form a considerable island in the central part of the field has greatly improved conditions.

Well in river bottom surrounded by piles to protect against flood damage

The field has shown a high yield per acre, and over 5,000,000 bbls. of oil ranging from 38 to 42 A.P.I. gravity, with a low sulphur content, has been produced to date.

The geology of the area is described in a recent report by T. L. Coleman, U.S. G.S. representative in the district, as follows: "The rocks exposed in the vicinity of the Red River Field belong to the Wichita formation of Permian age. The depth of the contact of the Permian with the Pennsylvanian has not been established, to the writer's knowledge, but seems to be near 700 feet below the surface, where the color of the drill cuttings changes from the red that characterizes the Wichita formation to the blue and gray of the predominating shales and limestones of the upper Pennsylvanian Cisco group, underlying the Wichita. The producing beds of the Red River Field, like those of the other fields of the Burkburnett district, are found near the bottom of the Cisco group. Well No. 4 on the Reno Oil Co.'s lease Guthrie 014186 passed out of the producing beds at 1,611 feet and from 1,633 to 1,638 feet, its total depth, passed through red shale, which no doubt is correlative with red shale that in several wells in the North Texas area marks the contact between the Cisco group and the underlying Canyon group of the Pennsylvanian."

Structure

The structure of the area is described in Mr. Coleman's report as follows: "The structure map of the field, Muskogee No. 1015, prepared by the U. S. Geological Survey, with contours on the top of the producing sand, shows the field to be located on two structural 'highs' with a producing area of about 500 acres each. . . . A pronounced syncline that crosses the south quarter of Section 4 and extends in a northwesterly direction through the NE Section 5-5s-14w, separates the two producing areas. In the western area the strata rise gently from the syncline toward the southwest, and attain their greatest altitude in the north central part of the W half Section 8-5s-14w, in a flat dome whose west and north dips are very abrupt.

"The producing beds found in these two areas range from 50 to 75 feet in thickness and occur in the western area at depths between 1,500 and 1,625 feet, and in the eastern area between 1,600 and 1,725 feet. They consist of sand and sandy shale divided by shale and lime breaks that are fairly regular and can be readily correlated over most of the field. The productivity of the wells seems to be due to local sand conditions rather than to favorable structure. The wells on the crest of the structural 'highs' are all small producers. The sand is thicker on the slopes of the highs than it is on the crest, and the wells have larger yields where the sand is thicker. The limits of the field are determined by the pinching out of the producing sands, which grade off into sandy shale and shale, and not by the dip of the formation to a point on the sides of the highs where a water level is encountered—the usual limit to the producing area of a field. There is no water level, as such, in the Red River Field. Bottom water was encountered at about 1,534 feet in the early days of the field, but today no water is found in the producing beds shallower than 1,555 feet, and many wells are entirely free from water. Well No. 4 of the Reno Oil Co.'s lease Guthrie 014186, previously mentioned, with a total depth of 1,638 feet, goes 27 feet below the producing beds and finds no water below the 6⅝-inch casing set at 1,552 feet.

"Twelve wells have been drilled during 1930 in this field, in all of which the tops of the producing beds have been located with a core barrel and their full thickness cored. These cores show that in wells located toward the center of the field there is about 70 feet of the productive zone, nearly all of which is sand, the shale and lime breaks being very thin and few. In the wells located toward the edges of the field the productive zone decreases to about 40 feet in thickness and contains a smaller proportion of sand and more shale and lime. This transition from thick sand to sandy shale and shale is shown very strikingly in the north end of the field. Well No. 227 of the Bell Oil & Gas Co., on lease Guthrie 014098-850, found the top of the sand low, at 1,560 feet, but had 40 feet of almost solid sand and is one of the best producing wells in the field with an average of 75 bbls. of oil daily. About 500 feet northwest of 227 is No. 1 Robert Tuo-Quothy, which is slightly higher structurally and found a thin sand and some sandy shale at 1,545 to 1,560 feet, but although drilled to 1,670 feet found no more productive sand and makes only 5 bbls. of oil daily. Authorities on this field have always regarded the producing sands as lenticular, and the formations as revealed by the core barrel, coupled with the eccentric water conditions, seem to verify this belief. The lenses are large, as is shown by the shale and lime breaks that are found at very even intervals throughout a large part of the field. It is only toward the edges of the field that the correlations become confusing with the appearance of more shales and limestones than are found toward the center of the producing area."

General view of part of the Red River pool

Repressuring Considered

Early in 1925, Albert Finston, of the Bell Oil & Gas Co. (owners of slightly more than half of the production), had engineering reports made on the various leases in the field, and approached the various operators with a plan to repressure the field as a unit, under the supervision of the U. S. Geological Survey. All but one of the operators agreed and operations started. The leases of the one dissenting operator were located on the edge of the field and it was decided that the success of the project as a whole would not be greatly affected by these leases.

A system of high pressure gas lines was laid so connection could be made to any well in the field which might be selected as a gas injection well. A small compression plant was built for the purpose of supplying gas at pressures above that at which the gas was delivered in order to carry on the necessary preliminary work, both in this area and an adjoining area in which high injection pressures were anticipated.

At the time repressuring started, a high vacuum was being pulled on the field. This varied from 20 to 25 inches (mercury) in various parts of the field. Early experimental work indicated that this vacuum would have to be removed, and the field operated under a back pressure if maximum results were to be achieved. A gradual reduction of this vacuum and a corresponding increase in gas injection accomplished the desired result without any great loss in production, and at the end of 10 months' operation the vacuum had been removed and an increase of 100 bbls. per day in oil production gained.

A very complete record of oil and gas production, gas injection and shutdown time and cause was kept for each lease during this period. A study of these records and of the sand records of the various wells indicated that maximum efficiency of operation was not being achieved. The changing of several of the points of injection helped, but in several cases an increase in gas production was noted without a corresponding increase in oil production. Examination of records and sand samples indicated the possibility of a highly depleted sand of very fine texture above the main producing sand body which was passing the gas readily without showing an increase in oil production. The fact that all wells being used as gas injection wells had been shot and cleaned out at various times made it difficult to pack or cement off this sand, and apply the gas at a point where the full benefit of the energy could be gained. It was decided that the use of old wells for gas injection did not allow the full benefit of the gas drive to be utilized, so on August 25, 1929, drilling was started on a new well on lease Guthrie 014098-850 to be used as a pressure well. This and later injection wells were cored from a point well above the producing sand to the point of completion. The first oil show in this well was encountered at 1,528 to 1,531 feet, but casing was set and cemented at 1,531 feet as it was decided that the condition of the sand indicated that the main sand body had not been reached. A good oil sand was found below a 5-foot shale break from 1,536 to 1,563 feet. A 2-foot shale from 1,563 to 1,565 feet was followed by good oil sand from 1,565 to 1,575 feet. A lime shell from 1,575 to 1,576 feet was followed by a soft, coarse sand from 1,576 to 1,597 feet, showing a high degree of saturation. Drilling was discontinued in lime at 1,598 feet.

Fittings at mouth of an intake well in Red River pool

A packer was run on 2-inch tubing and set in the lime shell at 1,575-1,576 feet. Gas injection was started in the sand below the packer and results were excellent. An increase in production of 40 bbls. daily was easily maintained. Provision was made for gas injection

(Continued on Page 48)

New Rules on Covering Directional Drilling Are Being Considered by Gulf Coast Operators

By NEIL WILLIAMS
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Texas, July 30. — The question of intentional deflection of wells off vertical is one of the chief topics before Gulf Coast operators. Since the recent court decision upholding the Adeltex Oil Co. in drilling a well, located on the extreme south edge of Conroe diagonally in towards the field in order to tap the oil horizon at a more advantageous point, the Railroad Commission has drafted a set of suggested regulations designed to prevent any directional drilling. Coastal operators now have these regulations under consideration with a view to making recommendations for any changes or modifications to be embodied in a permanent order to be issued shortly.

Under present regulations a well is allowed a deviation from vertical of as much as 5 degrees, this leeway taking care of unavoidable cases of drift or trouble as it is conceded that it is very difficult to drill a vertical hole. Operators are required to make straight hole surveys at intervals of at least 500 feet. Such rules originated during the early development of Conroe and at first applied to that field, but since then similar restrictions have been put into effect in other fields.

In the Adeltex case at Conroe, the well referred to, located on the surface according to the prescribed spacing rules requiring a well to be at least 466 feet from a property line and not within 933 feet of any other well, was found to be in the water when drilled vertically. The hole then was plugged back to 4,680 feet, and with the services of H. John Eastman, whipstocking expert, the well was drilled in a northeasterly direction toward the field, and although kept at all time within the maximum allowance of 5 degrees as provided by the Railroad Commission's order, the drift of between 400 and 412 feet was sufficient to place the bottom of the hole in the oil horizon above the water level. The well was completed flowing initially at the rate of 8 bbls. an hour through a one-eighth-inch choke, and since has been making the allowable, at present 62 bbls. daily. The new bottom of the hole is 5,218 feet as against the old total depth of 5,211 feet, and in view of the surface location of 466 feet south of the north line of the lease it is well within the company's property.

Avoidable Drift Issue

The Railroad Commission attempted to have the Adeltex Oil Co. enjoined from producing the well on the grounds that the provision permitting a drift of as much as 5 degrees off vertical was inserted in the rules only to allow for unavoidable drift, and not to enable operators to drill purposely off vertical to give them a more favorable position on the structure. It was claimed that the intention of the Commission was only to have all wells drilled as nearly vertical as possible; otherwise some of the purposes of the surface spacing regulations could be defeated.

It was the contention of the defendants that the rules made no reference to intentional deflection of wells, and in any case it made little difference in the ultimate effect whether wells were drilled off vertical purposely or unavoidably so long as they stayed within the maximum deviation allowed. It further was shown that oil was under a portion of the lease and if the company were not permitted to recover this either by drilling closer to the line or by the diagonal drilling of wells properly spaced on the surface, waste would be created or else adjoining property owners would drain the oil.

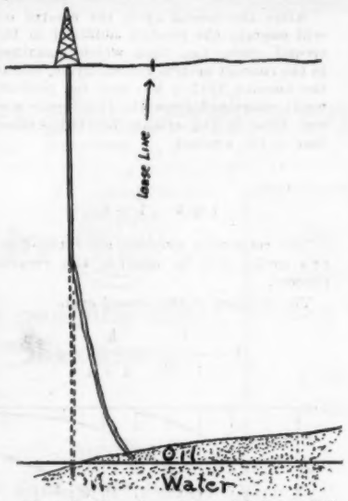
The courts held that so long as the Commission's order had not specified that the deviation of a well from vertical must be unavoidable, the Adeltex Oil Co. was entitled to the driftage.

Suggested Regulations

The new suggested regulations which the Commission has just drafted governing vertical drilling of wells provide in substance that no well can be drilled off vertical intentionally except in the cases of necessity in sidetracking junk or stuck tools in the hole, going around salt ledges or missing impregnable formations. In any event, however, the hole must be brought back to veritcal if possible within 500 feet and at no time shall the deviation be more than that allowed for unavoidable drifting.

Such definite restrictions are meeting considerable opposition among Gulf Coast operators, particularly those in the piercement type salt dome fields, where directional drilling has been used to advantage for some time. Consequently these operators are seeking to have embodied in the permanent order, to be issued later, certain provisions which will permit additional exceptions and leeway to meet the peculiarly hazardous exploration conditions faced around many of the domes. Attempts also will be made to provide for exceptions in the regulation limiting the maximum deviation to 5 degrees as around salt domes it is felt that deflections of as much as 10 to 15 degrees sometimes are necessary, the 5 degree maximum permitting a drift only of around 170 feet per 1,000 feet.

Directional drilling has and is expected to save salt dome operators thousands of dollars in drilling costs. In the first place, sands around the flanks of domes dip very steeply outward and downward, and in most cases the limits of productions are very narrow. By drilling a little too far in toward the dome, salt will be encountered and if a well is a little too far out it will get the water. In former dome development it sometimes was necessary to drill many dry holes in trying to follow the narrow line of production around a dome. In modern practice, it now is possible to determine after a test is started whether



Sketch showing how Adeltex Oil Co. made a producer instead of a water well out of its No. 2 Llewellen, located on the extreme south edge of the Conroe Field, by intentionally deflecting the hole northeasterly into the pay horizon. The sketch is not drawn to any scale, and is greatly exaggerated

it is too far in toward the dome or too far out and then by deflecting the hole in the desired direction find the sand at the most advantageous point.

If intentional drifting of wells is not permitted in such cases, and holes are required to be drilled as nearly vertical as possible, salt dome operators will have to resort to former methods of drilling a large number of additional wells. In the case of Barbers Hill, where a single well drilled without trouble costs between $50,000 and $55,000 compared with a sidetracking job costing around $15,000.

Value of Directional Drilling

Although not affected by any such regulations as proposed for the Texas coastal wells, a very excellent example of the use of directional drilling in the exploration, proving and producing of salt domes with the minimum amount of drilling is given in The Texas Co.'s maritime operations in Terrebonne Parish, La. On the Lake Barre dome, careful guiding of the bits to the sand closely flanking the salt has resulted in the proving of production with a single line of wells from which the entire production is expected to be recovered with the hydrostatic drive forcing the oil upward through the sand to the wells.

At the Bay St. Elaine Dome, in the same group of operations, The Texas Co. has used directional drilling to particular advantage in reducing exploration costs. Most all of the development, not only at Bay St. Elaine but also on the other domes in the Terrebonne Parish group, is in open water where the cost of rigging up for a test is very high. In a recent undertaking, the company was able to drill the equivalent of a number of different locations from one central location. When the vertically drilled well proved dry, the hole was sidetracked and deflected in succession in various directions to various points as much as 100 to 200 feet distant, testing a wide area for possible productive horizons. Although all happened to prove dry, all the various points drilled to would had to have been drilled anyway before the dome could have been considered thoroughly tested. If directional drilling had not been followed, a separate test would had to have been rigged up on piling foundations at tremendous cost. As it was The Texas Co. drilled all from one location with the only additional cost over the one well being that of several sidetracking jobs. There was a saving not only in actual expenditure of money but also in time. Under such conditions it requires about 30 days to drive piling and rig up for each test. As it was necessary to rig up only one test, the entire area was tested out with the minimum of time.

Radial Faults

Another peculiarity around many domes of the piercement type is the existence of numerous radial faults extending out from a dome. In drilling a test, an operator may find that the hole is on the wrong side of one of a fault but by drifting the hole to one side or the other he can find production. This is customary modern practice on salt domes. If an operator were required to drill vertical holes at all times, such a situation would necessitate the cost of at least two tests, which at Barbers Hill would be around $50,000 each.

That directional drilling can be used to very great advantage around domes with overhangs is the belief of operators. Up until now, sands underlying overhangs have been exploited by attempts of operators to drill through the overhang. When cavities are encountered in the cap rock, as at Barbers Hill, the undertaking sometimes is very difficult and costly. In some instances it has been impossible to negotiate cavity zones at all. The drilling through large thicknesses of salt also presents its hazards. Lately several operators have had under consideration plans to start their wells off the edge of the dome and after going to a depth below the overhang deflect the hole inward and under the overhang to the sand. Several tests have been

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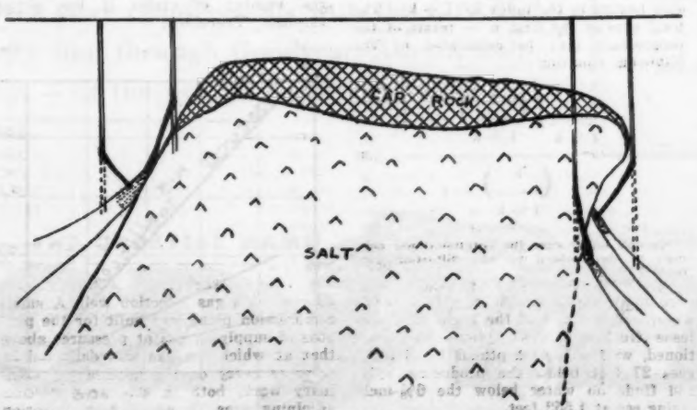

Exaggerated and generalized sketch showing how directional drilling is being used to advantage around salt domes to minimize the amount of drilling necessary to reach the producing horizons

Study in Effect of Time and Recycling On the Composition of the Product After Filtering

By P. A. KHOKHRYAKOV
Aviation Fuels and Lubricants Research Institute, "Triatim," Moscow, U.S.S.R.

In the laboratory, contact treating of oil with solid adsorbents is usually carried out in batch apparatus, whereas on a commercial scale, continuous contact plants are used. There are certain fundamental differences between the batch method and the continuous method. In the first case, the treated product has a completely uniform composition in regard to its time of contact, while in the second case the product represents the sum total of the various fractions which had remained in the contact treater for different time intervals.

The present paper is concerned, mainly, with the determination of the time to be

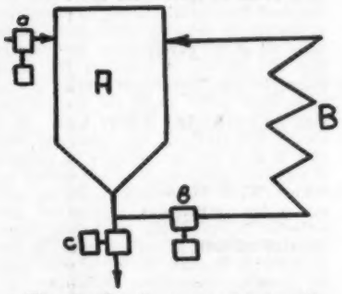

Fig. 1—Continuous contact unit. A—agitator; B—furnace

allowed for contact treatment and of the percentage amount of separate fractions which are dependent on the variable conditions of the continuous oil treatment.

The diagram representing the continuous contact plant for oil treatment is shown in Figure 1. The mixture of untreated oil and clay is fed into the agitator A by the pump "a," at the constant rate of feed "e." Part of the product is recycled through the furnace B for blending and heating by pump "b" (constant rate of feed "f"), while the remainder is pumped out of the system by pump "c" (constant feed rate "e"). The working capacity of the agitator is expressed as "g" the relation between the agitator working capacity and the amount of the product obtained from the plant (or, supplied to it) is expressed by the capacity factor "r," i.e.,

$$r = g/e \qquad (1)$$

The relation between the amount of the product pumped through the pipe still and the amount obtained at the plant is expressed by the recycle coefficient "k," i.e.,

$$k = f/e \qquad (2)$$

Suppose, now, that the product fed to the agitator is completely mixed with the recycle stocks and the resulting homogenous mixture uniformly passes through the agitator and then is pumped out by means of the two pumps "b" and "c."

Then, the agitator material balance may be expressed as follows:

The fresh product for treatment..	1
The recycle stock	k
Total	1 + k
The agitator output	1 + k

From the total amount, 1 + k, 1 is taken by the pump "c" and "k" by the pump "b." Then, after the first cycle the treated oil will contain the following amount of the fresh product:

$$\frac{1}{1+k}$$

The remaining part of the fresh product is used in the recycle process, i.e.,

$$1-\frac{1}{1+k}=\frac{k}{1+k}$$

After the second cycle the treated oil will contain the product obtained in the second cycle, i.e., that which remained in the contact system for one cycle, minus the amount $1/(1+k)$; and the product which remained from the first cycle and was used in the system for two cycles. that is the amount

$$\frac{1}{1+k}\times\frac{k}{1+k}$$

The remaining product after the first two cycles will be used in the recycle process.

The product of the second cycle:

$$1-\frac{1}{1+k}=\frac{k}{1+k}$$

The product of the first cycle:

$$\frac{k}{1+k}\times\frac{1}{1+k}=\frac{k}{1+k}-\frac{k}{1+k}=\frac{k^2}{(1+k)^2}$$

The treated oil, after the n^{th} cycle will contain a mixture of the above.

Consequently, the composition of the final product may be presented as the sum of the terms in a geometric progression having in the index $k/(1+k)$. The total sum of the first n — terms of the progression may be calculated by the following equation:

$$S=\frac{\frac{1}{1+k}\left[\left(\frac{1}{1+k}\right)^n-1\right]}{\left(\frac{k}{1+k}\right)-1} \qquad (3)$$

*In the latter case the fractional per cent may be determined by the following formula:

$$S=S_2-S_1=1-\left(\frac{k}{1+k}\right)^{n_2}-\left[1-\left(\frac{k}{1+k}\right)^{n_1}\right]=\left(\frac{k}{1+k}\right)^{n_1}-\left(\frac{k}{1+k}\right)^{n_2}$$

Simplifying, we obtain:

$$S=1-\left(\frac{k}{1+k}\right)^n \qquad (4)$$

By using this formula it is possible to determine what part of the final product has made the number of cycles from 1 to n or from n_1 to n_2.* In the solution of the suggested problem it is interesting to find not the number of cycles, but the time during which the oil has been exposed to the reaction zone.

For this purpose it is necessary to determine the duration of one cycle or the time required for a given quantity of oil to pass through the agitator "A." If we assume that during a unit time (as one hour), the product having the volume e + f passes through the agitator with a capacity "g," then the contact period for the given quantity of oil may be expressed by the equation:

$$t=\frac{g}{e+f}$$

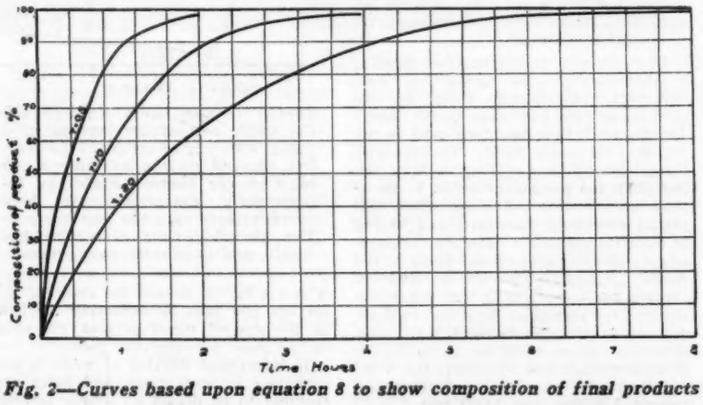

Fig. 2—Curves based upon equation 8 to show composition of final products

Dividing the numerator and denominator by "e," we find that:

$$t=\frac{g\times e}{(e+f)\times e}=\frac{r}{1+k} \qquad (5)$$

The contact period "t" represents the duration of one cycle. The contact period of a given fraction will correspond therefore to the value of "t," multiplied by the number of cycles it has passed through. Therefore:

$$E = tn \qquad (6)$$

By substituting the value of "t" from Equation 5 in Equation 6 we obtain:

$$E=n\frac{r}{1+k}$$

Where $n = E(1+k)/r$.

This value of "n" is substituted in Equation 4, giving:

$$S=1-\left(\frac{k}{1+k}\right)^{E(1+k)/r} \qquad (7)$$

For given values of "k" and "t" we take:

$k/(1+k) = c$ (constant) and
$(1+k)/r = 0$ (constant).

Then the formula may be expressed as follows:

$$S=1-C^{e^{-E}} \qquad (8)$$

Use of Figure 2

Figure 2 shows a number of curves based on Equation 8. Analysis of this equation and the curves leads to the following conclusions:

1. The composition of the final product may be represented by a definite curve—the composition curve, characteristic for the contact period of separate fractions.

2. The composition of the final product does not, practically, depend on the recycle coefficient (at least in the examined time interval) and is greatly dependent upon the capacity factor.

3. The higher the capacity factor, the greater part of the final product has a considerable contact period, this being accompanied by the more elongated curve of the final product composition.

4. The quotient obtained when dividing the composition curve integral by 100 may be taken as the average contact period of the product.

It is obvious that the fraction of the final product, which remained in the contact zone for one cycle only, has the shortest contact period.

The Equation 5 shows that this contact time is directly proportional to the capacity factor and inversely proportional to the recycle coefficient, this being also shown by the graph built on this equation using the co-ordinates "t" and "r" (the left side of the graph, shown in Figure 3).

Equations 5 and 8, given on the adjacent graph, Figure 3, have the same axis "t." From the points on the abscissa axis of the left graph, correspond-

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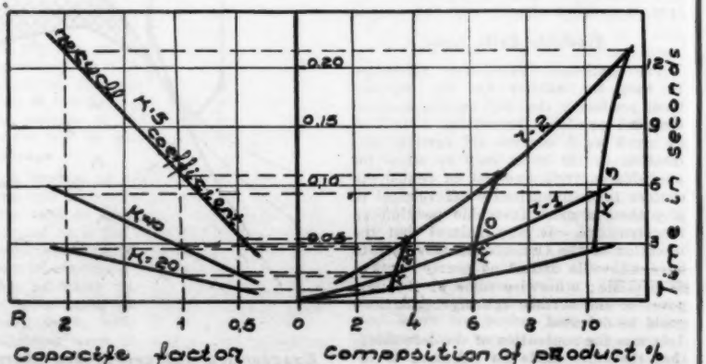

Figure 3—Effect of time on yield and composition

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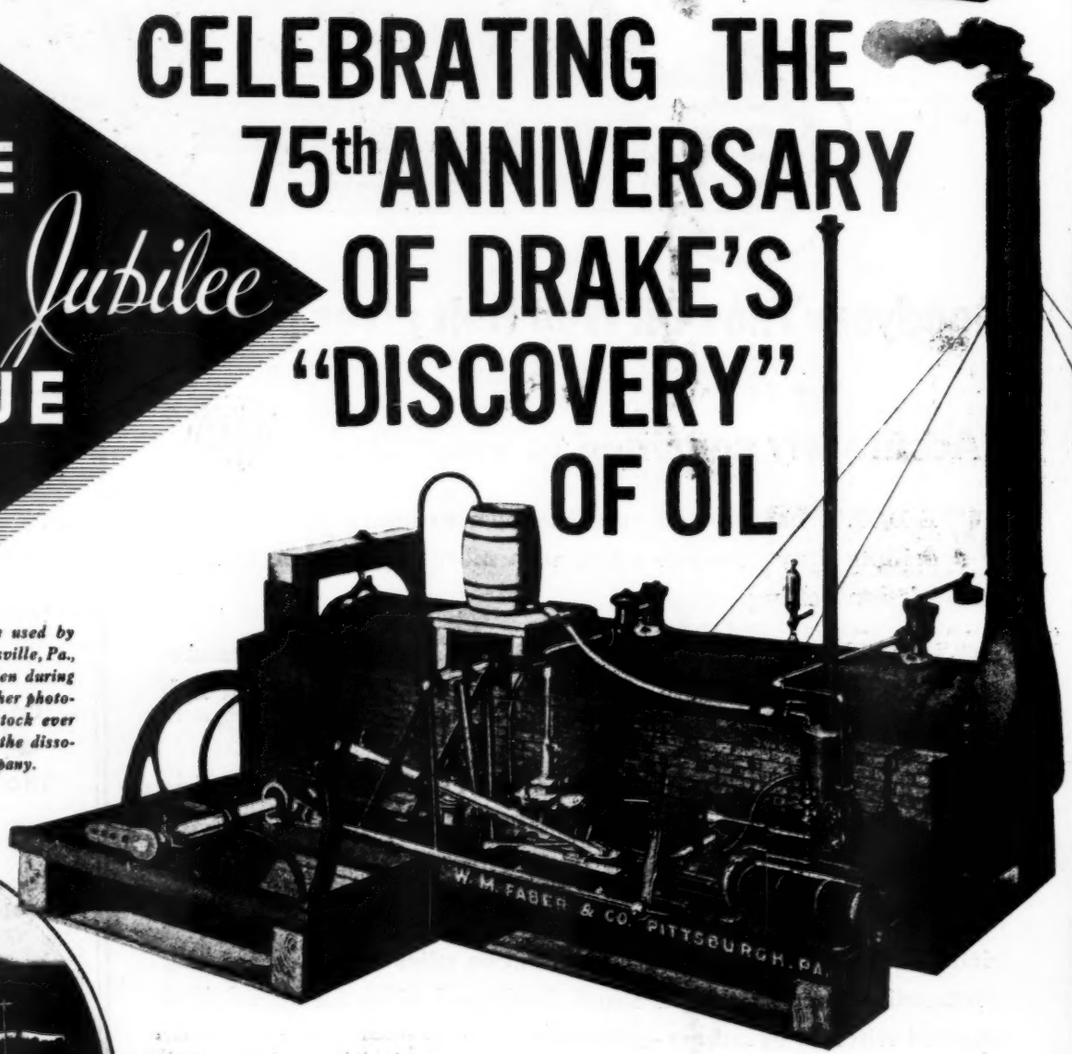

Right: The type of boiler and engine used by Drake in drilling his first well at Titusville, Pa., in 1859. Below: An actual picture taken during the railroad-tank wagon "war." The other photograph shows the smallest amount of stock ever issued. This was issued at the time of the dissolution of the Standard Oil Company.

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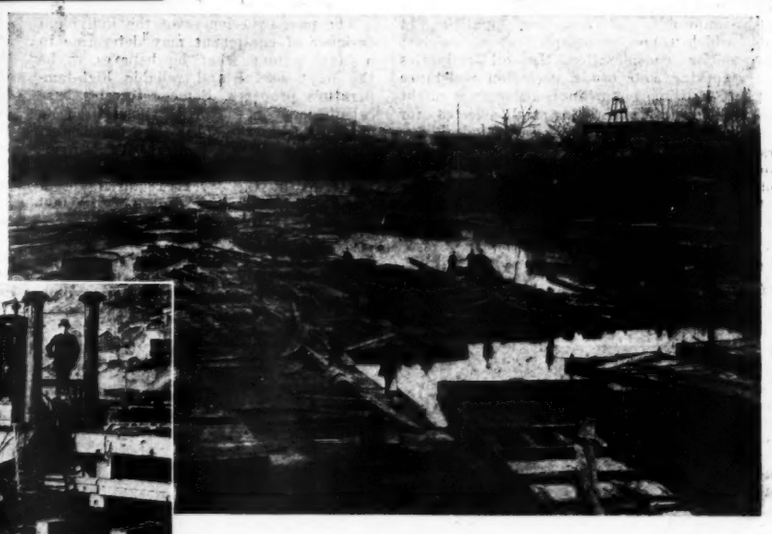

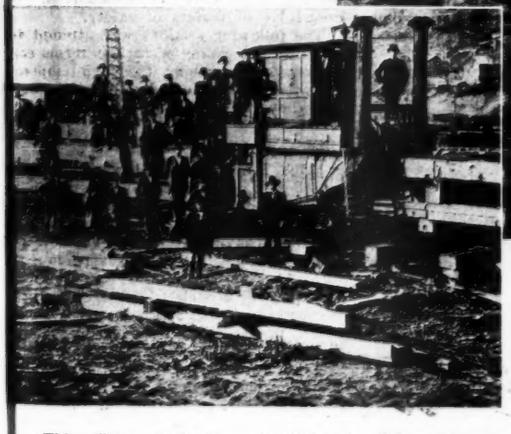

Right: Barge-and-barrel method of oil transportation in the early sixties. Below: Picture of the historical "Peg-Leg" railroad. The engine and cars sat astraddle of the "rail" or fence as shown. The lower right-hand picture is of old-time "oil dippers." These young girls are all grandmothers today.

This edition of *The Journal* will be the alltime reference book of the entire Oil Industry. So important is the *Diamond Jubilee Number*, it has caused two great oil papers—*The Oil City Derrick* and *The Oil and Gas Journal*—to join hands in commemoration of this outstanding event.

For the past few months more than fifty special editors, writers, research men and investigators have literally scoured the world for authentic data and information. This issue will be, indeed, the *official history of oil*, from Drake until today. It will be the first time in the 75-year history of oil that such information has been published either in book form or in an oil paper.

Every article, every page, every paragraph will be so filled with human interest and accurate information relative to oil, drilling equipment, refining, transportation and scientific data, that the *Jubilee Number* will contain as much information as any 40 or 50 specialized books on oil. 1,000 copies, including advertising, will be permanently bound and sold at $2.00 the copy. Thus, for all the years to come, oil men the world over will have in this one volume a reference library of the past 75 years of petroleum development.

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Never has any oil publication offered its advertisers so much circulation in one issue. 20,033 will be *guaranteed net paid A-B-C Circulation;* 3,000 (also A-B-C) will comprise the distribution to advertisers, sample copies, etc. In addition to this there will be distributed on Drake Day, August 27th, the several hundred free, souvenir copies—plus 1,000 permanently bound copies. Altogether, this totals over 25,000 copies—without a doubt the *largest worthwhile circulation ever offered by an oil publication.* And for this 25,000 circulation *The Journal* is charging only $40.00 extra, per page, over regular contract rates.

Companies already having advertisements scheduled for the regular August 23rd issue of *The Journal* (the issue in which the *Jubilee Number* will appear) will receive *only* the *regular* circulation, *unless* they specify the *Jubilee Section*, which will, of course, take the higher rate.

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THE OIL AND GAS JOURNAL

Qualifications of Steels for High Temperature Service in Petroleum Refinery Equipment

By A. E. WHITE,[1] C. L. CLARK[2] and R. L. WILSON[3]

During the past 10 years rapid progress has been made in the commercial use of steels at higher operating temperatures and stresses. While this is true in many industries, it is particularly so in the fields of petroleum refining and steam generation. The operating temperatures and pressures in liquid phase oil-cracking units have increased from 800° F. and 400 to 700 pounds in 1920, to 950° F. and 750 to 1,000 pounds at the present time. In vapor phase oil-cracking units, temperatures of 1,050 to 1,150° F. and pressures up to 400 pounds are now in use. Likewise, in central power stations, steam temepratures of 850° F. are now common and one experimental unit has been operating with a steam temperature of 1,000° F.

When it is considered that in tubing or pipe for these applications an appreciable temperature difference always exists between the metal itself and the oil or steam being conducted, it is evident that superficial metal temperatures of 1,000° F. to 1,200° F. at the outside surface of tubes are not at all uncommon. Under unfavorable conditions produced through the formation of insulating coke or scale deposits on the inside surface of the tubes, higher metal temperatures are often reached that may in certain cases even approach the temperature of the furnace gases with which the metal is in contact.

Laboratory Phase of Work

Various laboratories have been actively engaged for several years in securing information concerning the high temperature behavior of steels. Because of the considerable period of time required to carry these investigations to completion, steels have often been used commercially before their high temperature characteristics were completely established in the laboratory. As a result of the greater interest now being shown by several producers of materials for high temperature service, as well as by the consumers, the laboratory phase of the work is progressing more rapidly.

Although much information has already been published on steels at elevated temperatures, it is felt that a want exists for a fuller description of the high-temperature properties of certain low-alloy steels developed or studied within the past few years. An exposition of this kind could be appropriately prefaced with a statement of the fundamental requirements of materials intended for high-temperature service, and the methods by which the data are obtained. To carry out this treatment of the subject the present article will consider the necessary qualifications of materials for high-temperature work, and the test procedures employed for determining the high-temperature characteristics. A second article will deal with the various factors that may influence the high-temperature mechanical properties.

For a material to render satisfactory service at elevated temperatures, it must have a suitable combination of creep strength, tensile properties and impact resistance. It must also possess stability of structure and under the given operating conditions must be able to resist corrosion and oxidation to the desired degree.

The relative emphasis to be placed on these factors will vary with different installations. In any particular installation the requirements may not be the same during the different periods of an operating cycle. As a consequence, the ultimate choice of a material is usually a compromise of numerous qualities in which some important feature receives major consideration. In oil refineries working sour crude, corrosion resistance is of prime importance, although it might be desirable that a steel selected for cracking furnace tubes should also have good creep strength and oxidation resistance. Other refineries using sweet crude may neglect corrosion resistance while emphasizing oxidation resistance or high-temperature strength.

Certain steels may likewise be preferred because of special mechanical properties irrespective of corrosion or oxidation resistance. When cracking furnace tubes are badly coked, heat transfer decreases, mean metal temperature in the wall of the tube rises, and the steel soon becomes overstressed bringing the short-time high-temperature tensile properties into prominence. Again, bolting materials must possess suitable room temperature strength and shock resistance so that joints may be tightened successfully, and must have high creep strength at the operating temperature to assure the joints will remain tight during service.

Stability of structure is of utmost importance in a steel for satisfactory service at elevated temperatures. Lack of stability is generally manifested through the movement or coalescence of carbides. Carbide precipitation produces a condition conducive to intergranular corrosion and oxidation. It also tends to affect ductility and impact resistance adversely. Temper embrittlement causes a marked lowering of impact resistance at room temperature. Both agencies may lead to failures without warning. In addition to these effects of carbide behavior, carbide particle growth may cause significant changes in the strength or creep resistance of the steel.

The past experiences of the individual designer of equipment may determine to a large extent what he believes to be the most useful and reliable high-temperature property. Some refineries base calculations on the proportional limit as obtained from the short time tensile test at the operating temperature. Others employ the creep strength, usually expressed in terms of the stress required for a creep rate of 1 per cent per 100,000 hours. A safety factor is generally applied in either case, but for the higher temperatures this factor must necessarily be larger for the proportional limit than for the creep strength. On the assumption that failures may occur by creep, full advantage is not necessarily made of the strength of the material if the design is based on the proportional limit value. The factor of safety employed with the proportional limit is generally so much larger than the factor used in designing on creep values that smaller working stresses are computed from the proportional limit values.

Using the same factor of safety for the design, there are particular cases in which the proportional limit may be of equal or of greater usefulness than creep strength. Results of tests indicate that for each material there is a certain temperature range in which close agreement is obtained between the proportional limit and the stress for a creep-rate of 1 per cent per 100,000 hours. For many of the low-alloy steels, this temperature range is around 1,000° F. On the other hand, at temperatures sufficiently low to allow marked strain hardening, the creep stress is considerably above the proportional limit. In these cases it is believed that the proportional limit is the more suitable basis for design, unless initially large plastic deformation is permissible.

The quite plausible argument has been advanced by many refiners that cracking furnace tubes never really fail by creep. They are therefore inclined to discount the suitability of slow creep data in figuring the economical safe tube size for a given service. Tube design based directly or indirectly on the creep strength for a creep rate of 1 per cent per 100,000 hours implies that the equipment will have long life. Most certainly the tubes will not rupture within a reasonable period of time because of creep. Such reflections have drawn attention to the possible application of creep strength data for faster rates of creep, or the ultimate strength as determined in the short-time high-temperature tensile test.

These conceptions would at least possess the merit of being consistent with the facts. A tube that is beginning to swell, or is about to burst, is being deformed at a rate more comparable with the flow encountered in metal under high stress. The apparent differences in the approach to the problem of tube design can be reconciled somewhat, when it is considered that the factor of safety selected for the work is optional and may easily outweigh other controversial points. Engineering mechanics can be represented by standardized formulas, but engineering experience is summarized in knowledge of factors of safety.

The following sections will attempt to explain the meaning of various terms employed for describing the high-temperature characteristics and will briefly outline the procedure used for determining them.

Creep Strength

Much has been written about creep, but there may be many who do not fully appreciate exactly what is meant by this term. It can best be defined by comparing the behavior of metals at elevated temperatures with that at room temperature. At room temperature all types of steel may be considered for all practical purposes as being nearly perfect elastic bodies, provided they are not stressed too highly. If they be subjected to any stress below the elastic or proportional limit, the resulting strain or deformation will be proportional to the applied stress and will be independent of time. For example, should a piece of steel 1 inch in length be subjected to a tensile stress of 10,000 pounds per square inch, it will undergo an increase in length of approximately 0.000333 inch, and regardless of the length of time this stress is maintained, the deformation will remain constant at this amount.

At elevated temperatures steels lose their elastic behavior and become distinctly plastic. At these temperatures an apparent elastic deformation occurs upon the application of a load below the elastic or proportional limit, but unlike the condition at room temperature, this deformation is not independent of time, but increases as the time of application of load is increased. This increase in the elongation of metallic materials with time under a constant stress is what is now commonly known as "creep."

The question is immediately raised as to why metals creep at elevated temperatures and what factors are responsible for the change from the elastic to the plastic behavior. No explanation has been advanced as yet which meets the universal approval of those most familiar

TABLE 1—RELATIONSHIP BETWEEN PROPORTIONAL LIMIT AND CREEP STRENGTH VALUES FOR THREE STEELS AT 800, 1,000 AND 1,200° F.

Type—	Carbon	Manganese	Silicon	Chrome	Molybdenum
	Chemical Analyses				
Timken DM Steel	.07	.42	.72	1.25	.54
4-6 Cr-Mo Steel	.10	.45	.18	5.09	.55
C-Mo Steel	.16	.49	.30	....	.49

	Proportional limit lbs./sq. in.	Stress for designated rate of creep — 1%/100,000 hrs.	1%/10,000 hrs.	1%/1,000 hrs.
Timken DM Steel:				
800° F. temp.	18,000	30,000	29,500	42,500
1,000° F. temp.	15,000	15,000	24,000	37,500
1,200° F. temp.	3,500	1,950	3,950	8,100
4-6 Cr-Mo Steel:				
800° F. temp.	13,000	14,000	22,000	34,000
1,000° F. temp.	7,500	7,200	10,200	12,900
1,200° F. temp.	1,500	900	2,500	5,250
C-Mo Steel:				
800° F. temp.	12,000	21,500	27,000	34,000
1,000° F. temp.	6,000	9,500	16,000	24,000
1,200° F. temp.	2,000	730	1,650	3,500

Fig. 1—Photograph of creep testing units

[1]Director of engineering research, University of Michigan.
[2]Research engineer, department of engineering research, University of Michigan.
[3]Metallurgical engineer, Timken Steel & Tube Co.

Did you know that one Dubbs refiner went back to firing his boilers with coal because he could sell his Dubbscracked fuel oil at a premium?

One did

Probably others have done so, too

Undoubtedly more will do so as buyers come to understand that Dubbscracked fuel oil has more B.t.u. to the barrel than ordinary oil

There is never enough Dubbscracked fuel oil to go round

Nor enough Dubbscracked gasoline

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

with this phenomenon. In fact, certain investigators maintain that no radical change occurs other than in degree, and if sufficiently sensitive apparatus were available creep could also be detected in all metals and alloys at room temperature.

A satisfactory explanation for creep will not be possible until considerably more data have been secured and many existing factors which are known to influence creep are fully investigated. The most suitable explanation, on the basis of our present information, is believed to be the following: All metallic substances are crystalline in nature and consist of two phases: the crystals proper and the material which acts as the bond between the crystals. At room temperature the material between the grains, or at the grain boundaries, is the stronger of the two phases for those metals or alloys that become strain hardened above room temperature. Thus, the largest share of deformation and actual rupture occurs within the crystals. Since the crystals themselves are elastic, the metal or alloy under these conditions naturally exhibits elastic properties.

As the temperature is increased, however, a place is reached at which the relative strength of the two phases is interchanged and the largest share of the deformation, as well as the fracture, occurs in the bonding material between the grains. Opinions differ as to the exact nature of the material between the grains but regardless of whether it is amorphous or consists of very small severely strained crystals, it is agreed that it is not measurably elastic. Consequently, metals exhibit, in the main, plastic rather than elastic properties above the transition temperature. This temperature is called the equicohesive temperature, and, although its location has not been fully established as yet, the writers believe it coincides with the lowest temperature of recrystallization of material after maximum strain hardening. (Not to be confused with the allotropic transformation.)

While the explanation given might not meet universal approval, it does afford an interpretation of all the phenomena observed to date. On this basis, the influence of such factors as alloy additions, heat treatments and grain size may be predicted. It also accounts for the extreme differences in the creep strength of metals that do not have the same strain hardening characteristics, such as lead, copper, aluminum and steel.

Apparatus and Procedure

Many types of apparatus have been employed for determining the creep characteristics. They all consist, however, of the same essential parts: A loading mechanism, an extensometer for measuring the deformation or creep, and a furnace for maintaining the specimen at the desired temperature.

A view of one of the batteries of creep units used in the researches for the Timken Steel & Tube Co. at the University of Michigan is shown in Figure 1. Twenty units of this type are now in operation, as well as three of the Barr and Bardgett type, two of the multiple specimen type, and one rotary unit in which four specimens can be tested at once.

An optical system is used which is capable of reading to 2.8 millionths of an inch per inch of a 2-inch gauge length. This has been previously described[4]. The elongation of the specimen produces a rotation of the two mirrors. The amount of rotation is determined by observing through a telescope the image of a scale in the mirrors.

The procedure employed in conducting the creep test may greatly influence the resulting values obtained, as will be shown in a later article. All of our present tests, using the batteries of creep units above described, are conducted on 0.505 inch diameter specimens with individual specimens being employed for each stress. This is in accordance with the tentative procedure recently established by the Joint A.S.T.M.-A.S.M.E. High Temperature Committee.

It is customary to employ four different stresses for each material at each temperature. Typical time elongation curves which are thus obtained are shown in Figure 2. All curves of this type depict two or three stages of creep.

The first stage is the one in which creep occurs at a decreasing rate; the second, the one in which the creep rate is constant; and in the third, creep occurs at an increasing rate. This last stage occurs only after considerable deformation has taken place.

The rate of creep in the second stage is generally considered to be the creep rate corresponding to the acting unit stress. If the rates of creep are plotted on logarithmic co-ordinates against the stresses required to produce them, an approximate straight line relationship often results, as shown in Figure 3. This is very fortunate because within certain limits the rate of creep corresponding to any stress, or the stress corresponding to a given rate of creep, may be determined.

While it is customary to express creep in terms of the stress required for creep rates of either 1 per cent per 10,000 or 1 per cent per 100,000 hours, very few if any creep tests have been conducted for a time even approaching such extended periods. A creep rate of 0.10 per cent per 1,000 hours is considered equivalent to 1 per cent per 10,000 hours, and 0.01 per cent per 1,000 hours equivalent to 1 per cent per 100,000 hours. While these extrapolations may seem excessive, it is felt that they tend to be on the safe side since, with these relatively small rates of creep, the rate is apt to decrease further as the time of testing is extended.

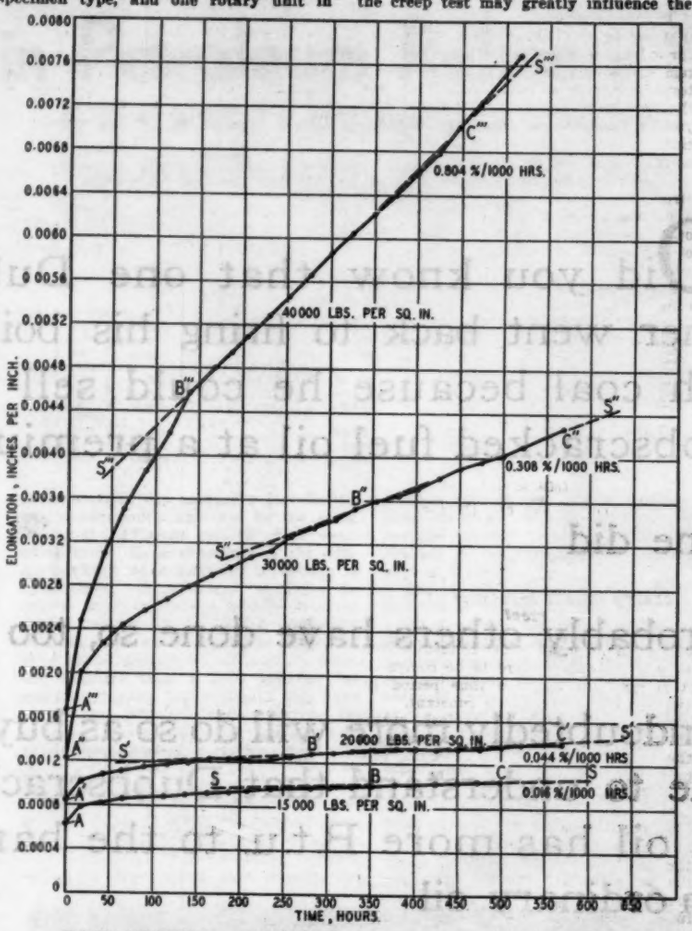

ELONGATION, INCHES PER INCH
TIME, HOURS
0.904 %/1000 HRS.
40000 LBS. PER SQ. IN.
0.308 %/1000 HRS.
30000 LBS. PER SQ. IN.
20000 LBS. PER SQ. IN.
0.044 %/1000 HRS
0.016 %/1000 HRS.
15000 LBS. PER SQ. IN.
ELASTIC DEFORMATION = OA, OA', OA", OA"'
FIRST STAGE OF CREEP = AB, A'B', A"B", A"'B"'
SECOND STAGE OF CREEP = BC, B'C', B"C", B"'C"'
RATE OF CREEP IN SECOND STAGE = SS, S'S', S"S", S"'S"'
CHEMICAL COMPOSITION
C. Mn. Si. Cr. W. V.
0.45 0.47 0.77 0.40 0.98 0.25
GRAIN SIZE: 8. BRINELL HARDNESS: 285.
HEAT TREATMENT: N. 1725°F., D. 1300°F.

Fig. 2—Time-elongation curves at 1000° F. for Cr.-W.-Si.-V. steel

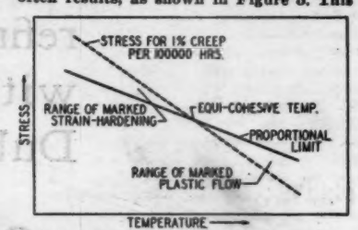


Fig. 4—Relationship between proportional limit value and stress for 1% creep per 100,000 hrs. at varying temperatures

Short-Time Tensile Properties

The tensile properties determined at elevated temperatures are similar to those obtained at room temperature. Only one new property is introduced, which is known as the yield strength. The yield strength takes the place of the room temperature yield point and is defined as the stress required for a definite plastic deformation, usually either .001 or .002 inch per inch. The Joint High Tempers-

[4] "An Apparatus for the Determination of Creep at Elevated Temperatures." Trans. A.S.M.E., Vol. 52, No. 27, pp. 347-51, 1930.

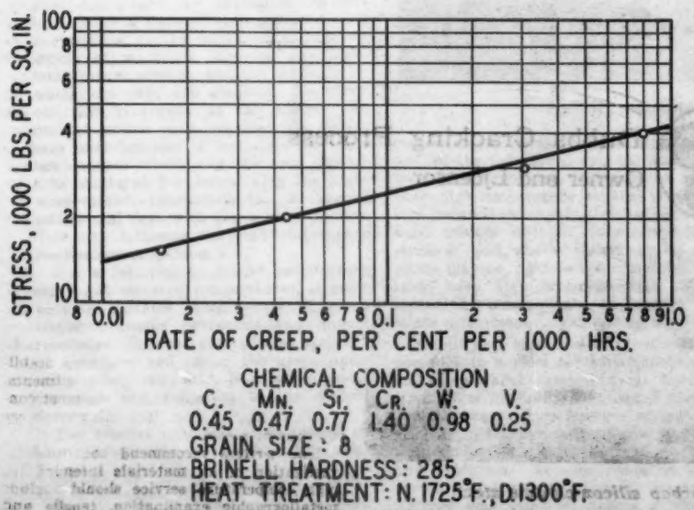

STRESS, 1000 LBS. PER SQ. IN.
RATE OF CREEP, PER CENT PER 1000 HRS.
CHEMICAL COMPOSITION
C. Mn. Si. Cr. W. V.
0.45 0.47 0.77 1.40 0.98 0.25
GRAIN SIZE: 8
BRINELL HARDNESS: 285
HEAT TREATMENT: N. 1725°F., D. 1300°F.

Fig. 3—Creep-stress curves at 1000° F. for a Cr.-W.-Si.-V. steel

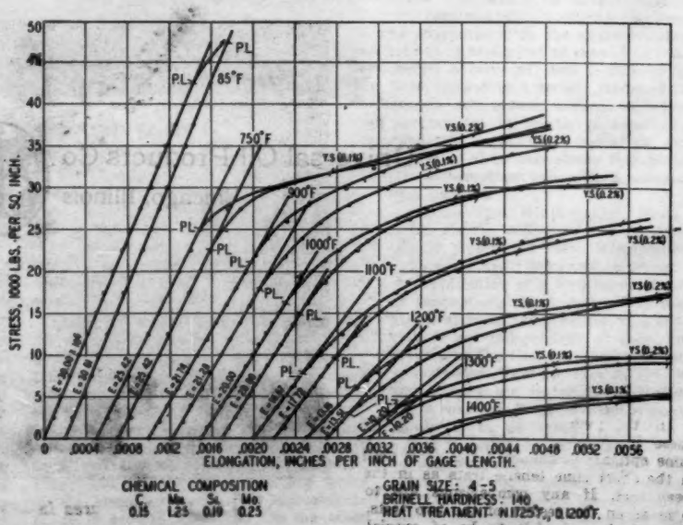


Fig. 5—Stress-strain curves for Mn.-Mo. steel at indicated temperatures

ture Committee has chosen the larger figure in its tentative specifications.

Some authorities question the value of short-time tensile properties for estimating the performance of a metal subjected to high temperature service for long periods of time. It is generally admitted that the strength characteristics especially do not have the same significance for high temperature purposes as for work at ordinary temperatures. The short time high-temperature ultimate strength, yield strength, and proportional limit are all influenced by the rate of loading. Through the use of suitable safety factors, however, many engineering structures which

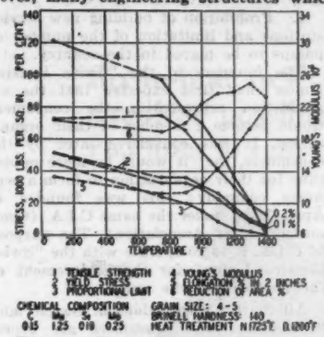


Fig. 6—Short-time tensile properties at elevated temperatures of Mn.-Mo. steel

are to operate at high temperatures are still being designed on the basis of the short-time tensile properties.

Of the three strength properties obtained from the short-time tensile tests, it is believed that for certain elevated temperatures an accurately determined proportional limit value is most apt to be an indication of the true strength of the material. Unfortunately, this property only serves as a reliable index of high-temperature strength over a relatively small temperature range in the immediate vicinity of the equicohesive temperature. Since the equicohesive temperature of many steels is not known, proportional limit cannot be employed without discrimination. Above the equicohesive temperature the creep strength is considerably less than the proportional limit, below this temperature the creep strength values will be higher than the proportional limit due to the marked strain hardening that occurs. What is thought to be the relationship between proportional limit and creep strength at various temperatures is shown diagrammatically in Figure 4.

The data in Table 1, setting forth the proportional limit and creep strength values of three different annealed steels, support this relationship. While no information is given concerning the equicohesive temperature or the lowest temperature of recrystallization, it is observed that there are certain temperatures at which the creep strength for 1 per cent creep per 100,000 hours exceeds the proportional limit, while at the higher temperatures, the proportional limit has the superior values. With DM and 4-6 Cr-Mo Steels, the proportional limit and creep stress for 1 per cent creep per 100,000 hours are approximately equal at 1,000° F. In the case of the C-Mo Steel, however, this would happen at some temperature between 1,000 and 1,200° F.

Apparatus and Procedure

The same type of equipment may be used for tensile tests at elevated temperatures as at room temperature. It is only necessary to place a furnace between the heads of the machine for maintaining the specimen at the desired temperature and, if the proportional limit, yield strength or Young's Modulus is to be obtained, an extensometer system must be employed for determining the strain.

In the research laboratories where these invesigations were conducted, the same optical extensometer system is used in the short time tensile tests as in the creep test. If any comparisons are to be made on the results of the two tests, this procedure is felt to be of special importance. One reason for the lack of better agreement between the proportional limit values and the creep test results in general may be due to the fact that all the efforts towards refinement have been devoted to the creep tests with a resulting neglect of the short time tensile test.

Typical stress-strain curves for steel that can be obtained at elevated temperatures from a sensitive extensometer system are shown in Figure 5. Duplicate tests were made at each temperature and the agreement between the modulus and yield strength values is good. The variations in the proportional limit values are more marked, but the differences are not inordinate. Two values for the yield strength are shown, one corresponding to a permanent set of 0.1 per cent and the other 0.2 per cent. When an extensometer of this degree of sensitivity is employed, perhaps the 0.1 per cent value may be the more satisfactory, as the element of time enters prominently into the location

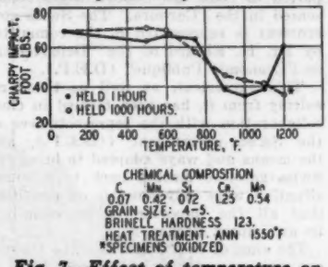


Fig. 7—Effect of temperature on charpy impact resistance of D-M steel

of the 0.2 per cent value. If results from various laboratories are to be compared, it is essential that the time period between load increments be constant.

Figure 6 illustrates typical curves showing the influence of temperature on the tensile strength, yield strength, proportional limit and ductility, as well as Young's Modulus. No tests were made between 85 and 750° F., but it is known that some steels would show an increase in tensile strength over this portion of the temperature range. With many of the alloy steels, the tensile strength is greater at 750° F. than at room temperature. In general, the strength characteristics decrease rapidly at temperatures exceeding 900 or 1,000° F., while the ductility increases. The location of the temperature at which the change occurs depends upon the chemical composition and heat treatment of the steel.

Impact Resistance

If material is subjected to shock during service, it should possess a suitable degree of impact resistance at the nominal operating temperature. The impact test is also valuable in determining whether a given alloy exhibits pronounced brittleness over any portion of the temperature range explored.

The Charpy impact resistance of DM Steel at temperatures up to 1,200° F. is shown in Figure 7. The curve is typical of those obtained for a large number of alloy steels, all of which showed a marked lowering in their impact resistance over the temperature range of 800 to 1,100° F. In most cases, however, the material still possesses enough impact resistance for practical purposes, even after the sharp drop. With Steel DM, for example, a minimum value of 35 foot pounds is found at 1,000° F., which is still sufficient for the majority of applications.

Apparatus and Procedure

The machine for determining impact resistance is an Olson combination impact tester capable of making Charpy, Izod and impact-tensile tests. All the high temperature impact tests performed in the course of these investigations have been made on specimens with the Charpy keyhole notch.

The specimens are heated in a small electric muffle furnace and transferred

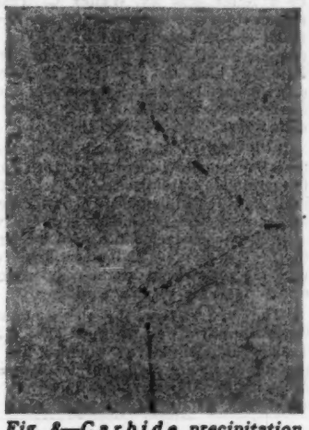


Fig. 8—Carbide precipitation produced through prolonged heating at 1100°F. Low carbon 18-8 23 months at 1100°F. x1800D murakami etch

rapidly to the machine and broken. Two seconds time is required for these operations. In order to determine the influence of soaking time on the impact strength, one set of specimens is always held at temperature one hour before breaking, while another set is held at heat 1,000 hours before breaking. Three specimens are broken for each separate test.

Stability Tests

Various tests have been employed in connection with determining the stability of steels at elevated temperatures, chief of which are metallographic examination, tensile, impact and hardness tests.

Metallographic examination before and after the specimens have been subjected to stress for long periods of time at elevated temperatures will indicate whether carbide precipitation, spheroidization, or transformation has occurred. The precipitation of carbides at the grain boundaries will promote intergranular corrosion and oxidation. Coalescence of carbides within the grains and migration of the particles to the grain boundaries may cause appreciable loss of ductility and impact resistance. It may be remarked here that the mobility of carbides has been observed to increase at high temperatures when steel is under stress. Transformation indicates the steel has been heated within or above its critical range. The resulting phase change may affect the grain size of the structure, the character of the constituents, and the mechanical properties of the steel while hot or subsequently when it has cooled to atmospheric temperature. Figure 8 shows typical intergranular carbide precipitation in low carbon 18-8 stainless steel. In Figure 9 carbide precipitation within the grains is illustrated. Photomicrographs (a) and (b) of Figure 10 represent, respectively, the original structure of low carbon 1.50 per cent silicon, 5 per cent chrome steel and the same structure in the last stage of carbide agglomeration with the particles gathered at the grain boundaries. Photomicrograph (c) of Figure 13 is the transformed structure of the silicon-

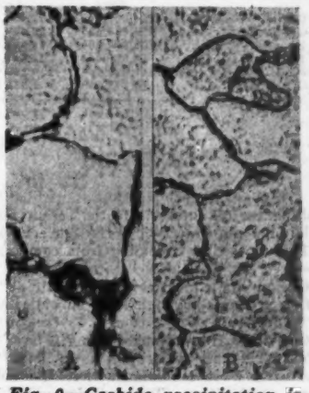


Fig. 9—Carbide precipitation in the structure of D-M steel

(a) Original structure × 1,000. (b) Showing carbides precipitated within the grains after heating 500 hours at 1,200° F. under a stress of 6,000 pounds per square inch × 1,000

chrome steel after long heating at 1,490° F.

Tensile tests conducted on specimens both before and after the creep tests will indicate whether there have been changes in the strength or ductile characteristics. The impact test is the most sensitive mechanical test for detecting carbide precipitation. It may also be useful for estimating the effects of spheroidization, but the available information is not sufficient to allow any general statements on the subject. The test is especially helpful in studying the phenomenon known as temper embrittlement, which may be defined as the loss of impact resistance at room temperature due to previous heating at some elevated temperature. If, for example, heating at 850° F. causes a marked lowering of the impact resistance at room temperature, the steel is said to be susceptible to temper embrittlement at 850° F. The effect of time and stress as influences that may intensify the loss in shock value have not as yet been elucidated.

The Brinell hardness, being proportional to the ultimate strength of the steel at room temperature, provides a simple and inexpensive measure for checking the heat treatment of materials. Whenever steels are annealed to improve their technological properties, or have been stabilized by means of special heat treatments, the Brinell hardness test is the most convenient method for inspecting a large number of pieces.

The writers recommend that the investigation of all materials intended for high temperature service should include metallographic examination, tensile and

(Continued on Page 51)

Fig. 10—Structures in low carbon silicon-chrome steel

(a) As-rolled structure × 500. (b) Completely spheroidized structure × 500. (c) Same structure as (a) after transformation following prolonged heating at 1,490° F. × 500

NEWS FROM FOREIGN LANDS

GREAT BRITAIN

Imports of crude oil and gasoline into the United Kingdom during May were less than May of last year, according to government reports. The May imports of crude oil totaled 28,914,000 Imperial gallons, a decrease when compared with the 32,969,000-gallon total for May, 1933. Imports of gasoline in May of this year totaled 106,400,000 Imperial gallons, which was 3,000,000 gallons less than the total for May, 1933.

These decreases have not changed the situation existing for the full five-month period this year, which shows that imports of petroleum into the United Kingdom are ahead of last year. The following table gives the imports for the first five months of 1934 and 1933 (data in Imperial gallons):

	First five months	
	1934	1933
Crude oil	194,022,000	157,131,000
Gasoline	450,500,000	456,500,000
Kerosene	100,400,000	84,500,000
Lubricating oils	44,000,000	38,600,000
Fuel oil	349,600,000	228,200,000
Other oils	10,775,000	5,350,000
Total	1,104,700,000	1,021,600,000

JAPAN

Opposition has developed within the Japanese oil interests to the recent regulations announced by the government. The opposition is coming from companies owned by Japanese capital as well as foreign companies which distribute or refine products through local subsidiaries.

The greatest objection is to the ruling that importing companies must have at least six months' supplies on hand at all times. It is claimed that the costs are prohibitory. Tankage is costly in Japan and most distributors have only small inventories at this time. The additional expenditures are particularly welcome at this time because due to low prices operations in Japan have been unprofitable over the past two years. These low prices are said to be due to the competition of products coming from the U.S.S.R. since 1932. The U.S.S.R. representatives in Japan in order to obtain a foothold in that country have reduced prices whenever they considered expedient according to their competitors. This is made possible despite government regulations, due to the flexible value of the Russian ruble.

Until the advent of the U.S.S.R. representatives, all the gasoline gallonage in Japan was controlled through a cartel by the following companies: Standard-Vacuum Oil Co., Royal Dutch-Shell through its subsidiary the Rising Sun Petroleum Co., Nippon Oil Co., Agura Oil Co., Mitsubishi Oil Co. and the Mitsui Busian Kaisha which acts as distributor for the General Petroleum Corp. The Russian representative is Nisso Matsukata. The latter has greatly increased its business since 1932. Recently efforts have been made to form a new cartel to include the U.S.S.R. representative.

CANADA

Imports of crude petroleum, asphalt and their products into Canada during May were valued at $4,075,327, compared with April imports appraised at $1,681,357. Sources of the May imports were as follows: United States, 73.5 per cent; Colombia, 13.1 per cent; Peru, 11.1 per cent; Venezuela, 1.3 per cent, with the remainder scattered.

Crude petroleum imports in May were recorded at 98,879,935 gallons, compared with 88,983,458 gallons in April and 83,981,157 gallons in May, 1933. Of the May, 1934, imports the sources were: United States, 68,892,481 gallons; Colombia, 18,752,208 gallons; Peru, 8,813,526 gallons; Venezuela, 2,421,720 gallons.

Canada exported petroleum and its products to a value of $155,584 in May, compared with $51,852 in April.

BOLIVIA

The Standard Oil Co. of New Jersey is not in any way involved in the war between Paraguay and Bolivia according to a letter sent by Walter C. Teagle, president of the company, to the Secretariat of the League of Nations. The letter followed an announcement from Paraguay that the government's foreign office in a memorial to the league would accuse the Standard of New Jersey of aiding Bolivia in the war.

In his letter Mr. Teagle pointed out that the company operates in both countries through subsidiaries. Its production in Bolivia is 307 bbls. daily. The government there has commandeered for war certain transportation facilities belonging to the company. A claim has been filed with the government by the company covering the value of this equipment.

"The area covered by the company's concessions lies west of the Chaco," Mr. Teagle said, "and the Standard has no present or future plans nor is there any necessity for laying pipe lines into or across the disputed territory."

SWITZERLAND

In June, 1932, the Swiss government decided to prorate petroleum products imported in the country. For this purpose a company, named "Carbura," was founded by decree of the government for the purpose of regulating the importation in Switzerland of petroleum products. All the importers were granted an import license based on the tonnage imported in 1931. All importers are represented in the "Carbura." The Swiss government is represented in the committee by Dr. H. Ebrard of the "Departement de l'Economie Publique" (D.E.P.).

This agreement, as well as those resulting from it, has been formed in close collaboration with the representatives of the Swiss government ((D.E.P.), and the means and ways adopted to bring the Swiss gasoline market back to a sound situation were only possible on condition that all the importers were submitted to an import license.

The aims of the "Swiss Benzine Union" are numerous, the principal ones being:

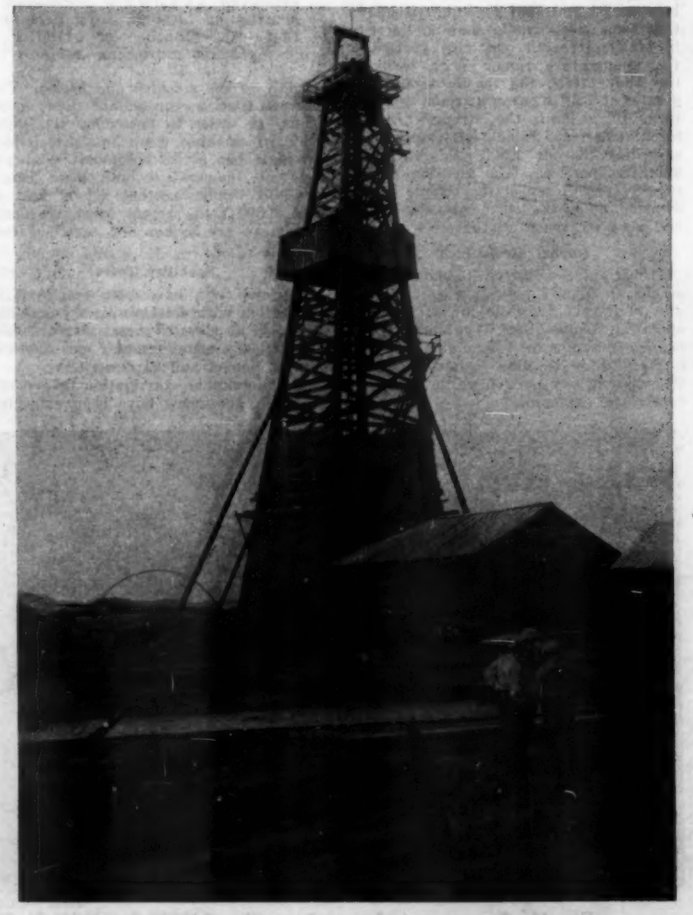
1. The fixing of import prices and sales prices according to a scheme based on world market prices and an estimation of all ultimate costs.
2. The maintenance of sales prices through a severe system of fines and eventually boycott of the offenders.
3. A definite relationship between prices in tankers, trucks and drums.
4. The ultimate confinement of the retail trade, to those called "professionals of the gasoline trade," thereby meaning garagists and all tradesmen connected with motor car trade.
5. Prohibition of building new service stations and limitation of the number of pumps to be placed in the country.

The founders of the "Swiss Benzine Union" had first expected that the organization representing the consumers would become a member of their organization. It was considered later by the consumers, that it would be more opportune for their organization to form a separate company; this was founded in April, 1934, under the name C.I.A. (Commission Inter Association). The purpose of C.I.A. is to co-operate with the "Swiss Benzine Union" for the achievement of the purposes of the union.

All the big associations of Switzerland representing the consumers are represented in the C.I.A., namely: A.S.P.A.—Association of Motor Truck Owners in Berne, Automobile Club of Switzerland, Berne; Chambre Syndicale of the Motor Car Industry, Geneva; Swiss Touring Club, Geneva; Swiss Motorcycle Union, Geneva; Swiss Bicycle Association, Zurich; Workers Touring Club, Berne; Association for the Defense of the Interests of Motorists, Berne; Swiss Hotel Owners Association, Bale; Chambre Syndicale de l'Horlogerie, La Chaux-de-Fonds, and Swiss Tractors Association, Lucerne.

Inland gasoline prices shall in the future be fixed in agreement between the Swiss Benzine Union and the C.I.A. on the basis of the principles contained in the arrangement arrived at on March 10, 1934.

For this purpose the "Swiss Benzine Union" and the C.I.A. shall constitute a committee named "Commission de Surveillance du March de la Benzine" (Cosuma), composed of representatives of the "Swiss Benzine Union" and the C.I.A. This committee shall appoint a neutral president to attend the current business and to preside.



—Photo by L. C. Uren.

Lok Batan well, U. S. S. R.; 140,000 bbls. daily, flowed out of control 21 days, then sanded up. Note rotary drill pipe blown out of hole

RUMANIA

Work is progressing rapidly in the construction of the new Ploesti, Rumania, refinery of the Creditul Minier. The plant when completed will have a crude capacity of approximately 8,000 bbls. daily. Provision has been made to double the capacity when needed. The Dubbs cracking process has been installed.

POLAND

Following is the output of refineries of Poland for the first quarter of 1934 compared with the same period in 1933 (data in tons):

	1934	1933
Crude runs to stills	136,000	133,900
Kerosene	45,700	37,500
Gasoline	22,300	16,700
Gas oil and fuel oil	22,500	26,400
Asphalt	6,000	4,200

MEXICO

Reports from Mexico state that government officials are objecting to the recent increases in gasoline prices by the oil companies. Further threats are being made to expand the government's operations with the view of refining crude required for domestic consumption. A government controlled company at present owns a small refinery.

The Hausteca Petroleum Co. (Standard Oil Co. of New Jersey) has a pipe line under construction extending from its field in Cerro Azul, Vera Cruz State, to a terminal at Mata Redenda.

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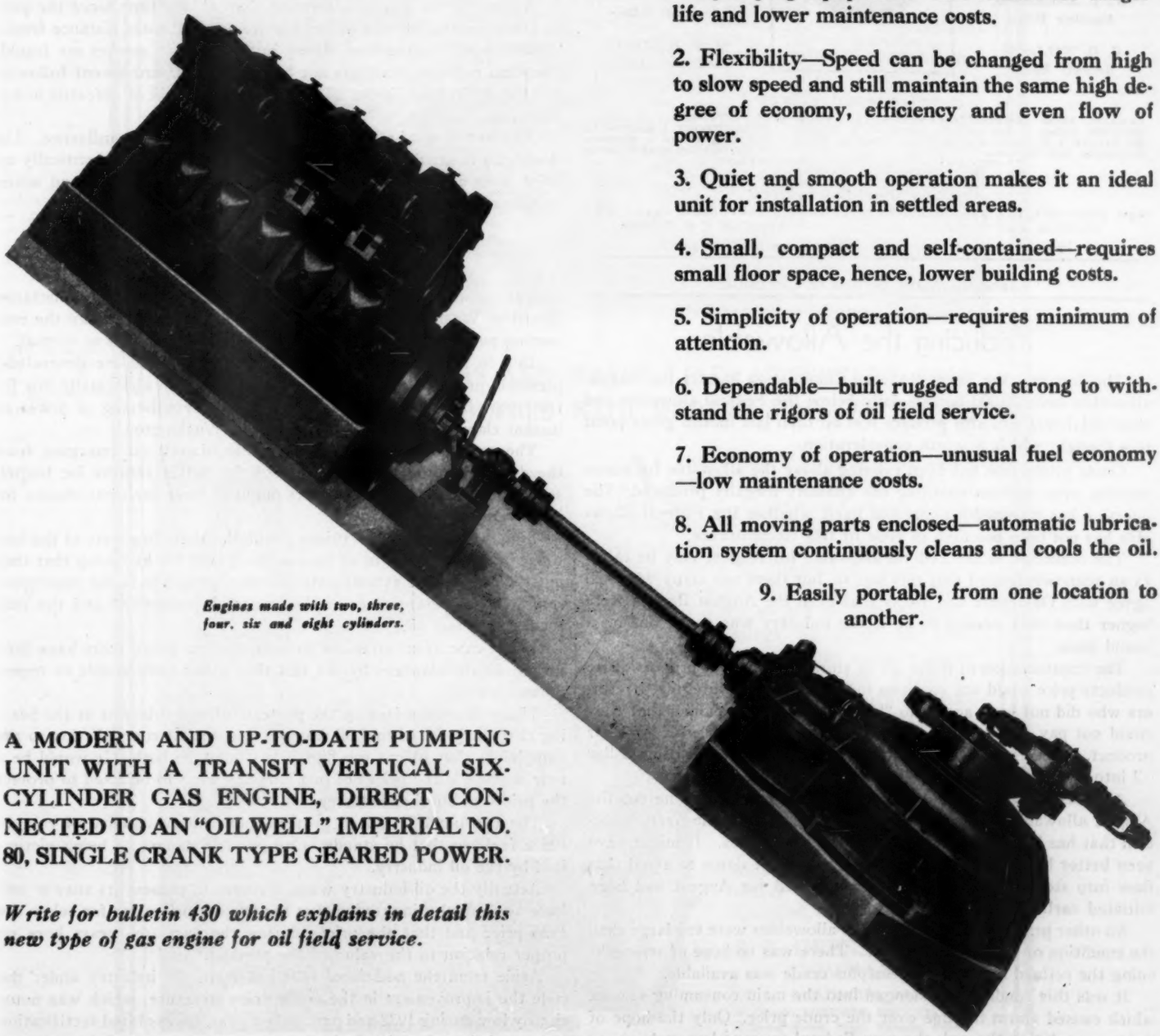

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THE OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published Weekly by

THE PETROLEUM PUBLISHING COMPANY

114-16 West Second Street, Tulsa, Oklahoma

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Reducing the Allowable

The fact that the Texas Railroad Commission has set the August allowable some 20,000 barrels daily below the Federal allowable and that Oklahoma will also produce less oil than last month gives point to a thought which is worth consideration.

Crude production has been running above the allowable for many months, even without counting the quantity illegally produced. The question has repeatedly suggested itself whether the Federal allowable has not been too high in view of this circumstance.

The reduction in the Federal allowable for August may be taken as an acknowledgment that this was so, but there are many who will agree with Oklahoma and Texas that even the August figures were higher than they needed to be if the industry was to be put on a sound basis.

The accumulation of dollar oil in storage without a proportionate products price could not continue indefinitely. Non-integrated refiners who did not have access to "hot" oil justly complained that they could not pay a dollar for crude if they got only 75 cents for their product. There was a natural reluctance to continue putting dollar oil into storage if the market was going to be broken down.

Administrator Ickes had this situation in mind when he cut the August allowable to permit withdrawal of some of the overproduction that has been going into storage in past months. It might have been better had the Federal allowable been kept down to avoid that flow into storage or if the policy announced for August had been initiated earlier.

No other proof was needed that the allowables were too large than the condition of the refined market. There was no hope of strengthening the refined market while surplus crude was available.

It was this condition, prolonged into the main consuming season, which caused alarm in June over the crude price. Only the hope of tighter regulation through the new Federal revenue law and the fear of a breaking down of the whole code structure prevented collapse.

The gasoline buying plan in East Texas, conditioned on reduction of "hot" oil production, has accomplished something. The reduction of the East Texas allowable by the Railroad Commission, if enforced, will help. The fact that oil is now being withdrawn from storage is encouraging, but much more needs to be withdrawn before conditions can be stabilized.

While the demand for gasoline is expected to run ahead even of last month's figures in the main consuming centers the effects of the drought in the farming areas must be considered.

Most of all, the industry must keep steadily in mind the necessity of entering the Fall months in a sound statistical position.

Control of crude production is the key to the situation. In the original code there was a tentative agreement that the crude price relationship should be about 18.5 to the price of gasoline.

On that assumption dollar crude was established but at no time since has the gasoline market approached that relationship, because crude was available far below that price.

The industry will soon have labored a full year under that condition, a condition that could never have been maintained that long but for the hope that it might be corrected satisfactorily.

Today we are nearer a solution than at any time since the price of crude was raised to a dollar, but we are still some distance from a relative price for gasoline. Many in the gasoline market are frankly skeptical because there has not been quicker improvement following the buying in East Texas. There is the usual talk of defeatist undercurrents.

The lowering of allowables may have a steadying influence. Undoubtedly it should have been attempted sooner, but if drastically applied, even at this late date, it may carry us into the Fall and winter in a sounder position.

Fuel Oil Hearing

The hearing on fuel oil before the Petroleum Administrative Board at Washington is another illustration of how easily the consuming public comes to regard phenomenally low prices as normal.

Due to the glutted overproduction of crude and the general depression, prices of all grades of fuel oil had been abnormally low for two years but with the first sign of any strengthening of prices an instant clamor for investigation reached Washington.

The consumer who is congratulating himself on emerging from the depression and beginning to look for better returns for himself seems to have no idea that others ought to have the same chance for improvement.

Simply because fuel oil prices are higher than they were at the bottom of the depression is, of course, no reason for assuming that they must necessarily be extortionate, but that seemed to be the impression sought by representatives of the steamship companies and the railroads using fuel oil.

In the case of oil products the industry can prove there have been no inordinate advances by the fact that it has been unable to regain normal levels.

This was emphasized by the protests of coal interests at the hearing that the price of fuel oil was too low, in flat contradiction to the complaints that it was too high. It cannot be both. It would be a new wrinkle if the prices of one industry were to be fixed to protect the prices of another industry.

The consumer is indeed protected by the availability of competitive fuels so that he stands in no possible danger of being victimized by the oil industry.

Actually the oil industry when it comes to present its answer will have no difficulty in proving that the present prices are far below the 1926 price and that the prices during the past two years bore no proper relation to the value of the product.

Aside from the additional cost put upon the industry under the code the improvement in the crude price structure, which was notoriously low during 1932 and part of last year, necessitated rectification of the prices for fuel oils as an essential part of the recovery program.

All of us have to learn that if we are to regain our balance we cannot expect depression prices to continue and while some prices have been jumped out of all reason the oil industry's prices has certainly not been among them.

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Gasoline Buyers Hard to Find, With Result That Sluggish Market Prevails in Group 3 Area

By T. F. SMILEY

Buyers of motor fuel were hard to find this week, with consequent depressing effect on prices. Hopes for the customary August rise in consumption grew fainter in the Oklahoma (Group 3) territory as drouth and scorching temperatures over large areas of the country continued to act as a curb. With dust and heat robbing motor travel of its ordinary pleasures the number of vacation tourists has been sharply reduced. Loss of income because of burned-up crops affords an additional explanation of the curtailed buying of gasoline.

Conditions inside the trade are not calculated to stimulate interest in offerings. The market, which showed signs of becoming firmer and more confident for a time last week, sank back again into a state of sluggishness, touched with irritability. Jobber buying was virtually at a standstill. Although official price quotations appeared to stand up fairly well, there was asserted to be something unreal and dubious about them. East Texas was emerging again as a sinister threat.

Plan Put to Test

These and other discouraging conditions combined to create a feeling that August might prove or disprove the workability of the petroleum administration's gasoline purchasing plan, by which it had been hoped to clean East Texas of distress motor fuel and keep it that way. It was declared that while few had expected the plan to achieve all its objectives, it had seemed fairly certain that wholehearted co-operation of those who would benefit by it would insure mitigation if not elimination of conditions which were demoralizing the market.

Although major refiners, in conformity with the plan, have been paying independent refiners in the East Texas area 3⅝ cents resale or higher for low octane U. S. Motor gasoline under contracts approved by the Planning and Coordination Committee, some East Texas refiners are reported to have been offering the same material at substantially lower prices. It is asserted that there has not been enough of this cheap gasoline at any one time to establish a market. The seller of gasoline under the standard contract pledges himself not to produce or process hot oil. It is said that most though not all of the refiners offering gasoline at prices lower than those fixed in the contract are among those who had refused to enter into the purchasing plan. These holdouts are understood to represent about 10 per cent of the area's refining capacity.

Observers point to various indications that hot oil and gasoline made from it have not been banished from East Texas. Instances are cited where the refiner is selling more gasoline than he could make under his allowable. Some students of the market express the opinion that it is useless to expect any really effectual drive against hot oil operators until all question concerning the constitutionality of the oil code has been definitely removed by the courts. Until then, they assert, the man who places immediate profits above the permanent common good is likely to ignore the law when it suits him to do so, since it seems to have been demonstrated that he need have little fear of prosecution. So long as government officials are doubtful concerning the outcome of hot oil cases which they might take into court offenders are likely to be temporized with and beseeched instead of being brought up with a sharp turn.

This is the situation, observers say, which is making it so difficult for the petroleum administration to make any plan for a cleanup in East Texas really effective.

Over against discouraging conditions which have arisen strong interests in both the oil industry and governmental circles indicate there will be no wavering in the campaign to stop illegal practices in East Texas and to put the gasoline market on a firm basis.

Refuse to Chisel

In contrast with certain refiners who are reported to be playing fast and loose with the gasoline purchasing plan there are said to be some who, with inadequate storage facilities overtaxed, have closed their plants temporarily, refusing to sell their distress material below the prices established by the administration-approved contracts. These took the position that they had entered into an agreement which business honor required them to keep unless bad faith should be revealed.

Further indication of the Government's purpose of carrying to completion the program designed to correct marketing evils and strengthening the refined oil price structure is seen in the announcement that the marketing division of the Petroleum Administrative Board is to conduct a survey of price margins granted by distributors of gasoline and other oil products to retail dealers and the general policy of distributors with respect to giving margins.

Naturals Maintain Their Swing

Natural gasoline was maintaining the buoyant market into which it swung two weeks ago. There was said to be actual difficulty in filling some hurry-up orders from refiners. No slackening of

(Continued on Page 28)

Refined Oil Market Barometer

East Texas and the future of the gasoline purchasing plan injecting elements of uncertainty into the motor fuel market. Price structure built up under purchasing plan believed threatened by continued appearance of hot oil and by price cutting. Consumption affected by drouth and heat although retail business reported satisfactory along Atlantic Coast. Natural gasoline in brisk demand. Lubricants experience further slump, with sharp reductions in price.

Mid-Continent.—Gasoline weak. Natural gasoline lively. Lubricants off. Kerosene weak. Light furnace oils active.

East Coast.—Bright and steam refined stocks break sharply. Gasoline steady. Fuels inactive.

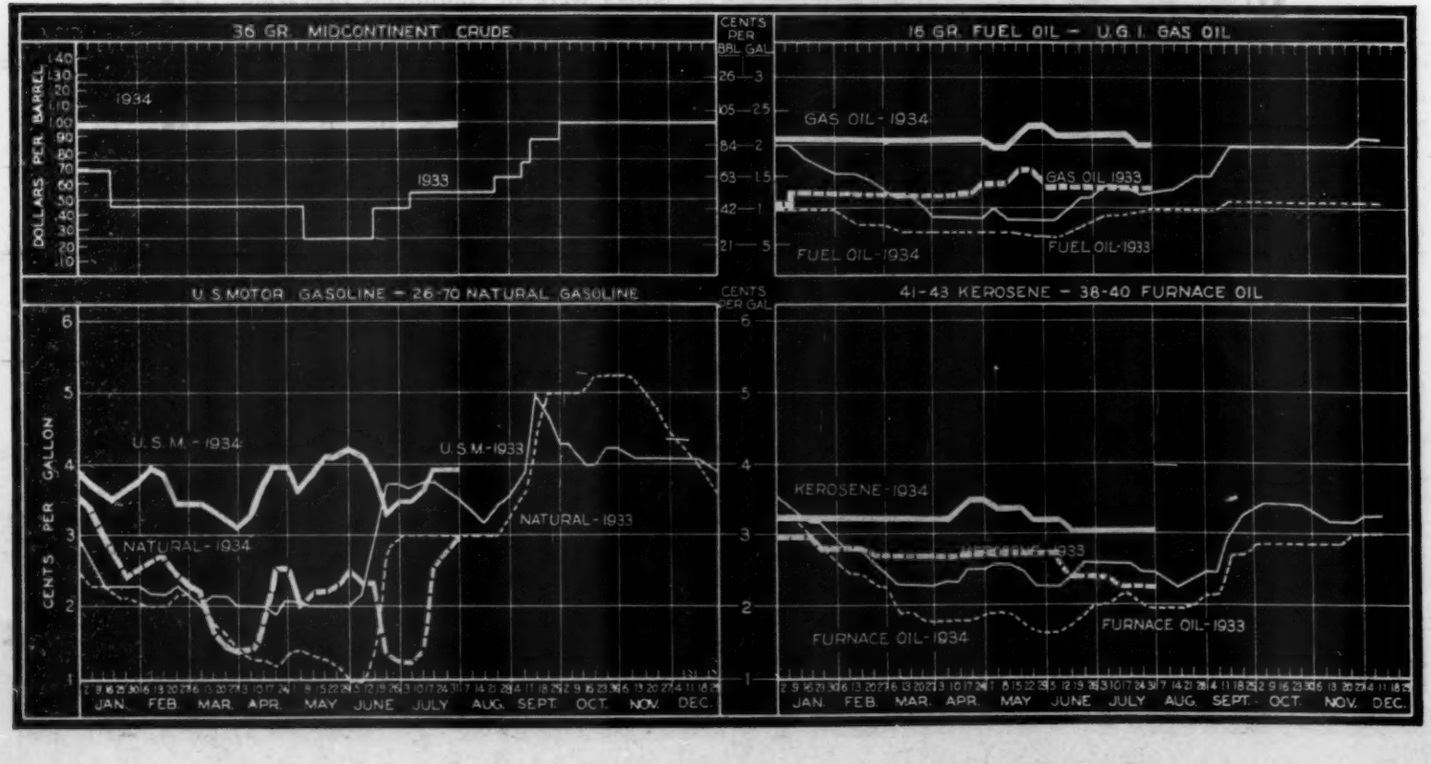
Gulf Coast.—Buying slow in all products. Prices unchanged.

Pennsylvania.—Neutrals and bright stocks down. Motor fuel fairly steady.

California.—All markets listless, with no changes in price.

Chicago.—Gasoline irregular and spotty. Kerosene and good heating oils firm. Lubricants weak. Naphthas quiet.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



Gasoline Sales in North Atlantic States Exceed Record of Last Summer; Prices Are Normal

By C. O. WILLSON
New York Bureau, The Oil and Gas Journal

NEW YORK, July 30.—Another sharp break in refinery quotations on steam refined stocks and bright stocks for export and domestic movement was the most important development of the week in eastern refined markets. Price declines over the past few days for the several grades have been as much as 3 cents a gallon. These follow reductions earlier in the month. The first of the week, No. 8 color bright stocks for export movement in barrels was quoted at 28 cents per gallon by refiners and brokers, a decrease of 8 cents under the high quotations of the year. The 600 steam refined for export in barrels (unfiltered) which sold for 26 cents a gallon in April, May and early June was quoted today over a price range of 19 to 20 cents. Corresponding declines were effective in other grades of steam refined stocks and bright stocks. The paraffin neutral oils also declined slightly in quotations following the reductions in cylinder stocks although the statistical situation in these products is still considered strong.

The remainder of the refinery markets in this territory showed little change from a week ago. The refinery tank car and small barge market on gasoline is steady so far as the postings of the major refiners in this territory are concerned. There is a little "chiseling" reported in quotations on low octane material presumably originating in independent tanker shipments from the Gulf Coast. The latter market on gasoline has been stronger over the past two weeks reflecting the better prices in East Texas and other Mid-Continent points and sellers in this territory are hopeful that this upturn will continue to the point where Gulf prices on spot shipments are in line with the Atlantic Seaboard quotations.

In the meanwhile, most of the larger distributors in this territory report a very satisfactory July retail gasoline business in a territory which includes New England, New York and several of the Atlantic Seaboard states. Sales are running ahead of July, 1933 and it is predicted that August sales will exceed those of the month just closing. Drought conditions which have materially reduced retail consumption in some states, so far have not been a factor in this immediate territory.

Fuels Slow

The market on kerosene, distillate gas oil, and all grades of residual fuels is not active so far as spot trading is concerned. Prices are steady but the outlook for the immediate future is unsettled. Local refiners and distributors will be represented at the hearings authorized by the Oil Administrator which start today at Washington. This investigation was brought about by complaints of consumers of all grades of fuels from the ship owners buying bunker grades of fuel oil to the householders burning small quantities of kerosene or range oil as fuel. The basis of the complaint is that prices have been advanced in excess of increased costs under the N.R.A. Several local observers are of the opinion that developments may come from the hearing which will have important bearing on prices at refineries and to consumers over the balance of the year.

So far as prices are concerned the attitude of the oil companies will be that present quotations are entirely justified. Data have been prepared showing prices over a period of several years in relation to crude oil schedules. The low prices of last year and the year before to which consumers are pointing, reflect conditions brought about by the depression and an uncontrolled over production of crude during which the industry as a whole, was operated at a loss. Present prices on most products in the fuel end, are in line with average conditions and certainly are not resulting in excessive profits to refiners and distributors.

At the same time there are those in the industry who feel that lower prices on certain oils, particularly the residual products, might be expedient due to competitive conditions in other products. In this connection one executive points out that in the sale of fuels, consumers have a guaranty against excessive prices due to the competition of coal, gas and other fuels. This competition has been apparent at many points over the past six months and this particular executive points out that prices on heavy fuels may be lowered to retain markets which otherwise will be lost to other fuels and not because present prices cannot be justified on a basis of costs. Lowering fuel prices at this time will simply mean that other products secured in refining will have to bear a larger share of total costs. Such discussions generally end with prophesies as to the future trend in crude oil schedules and uncertainty which even the administration at Washington probably will not be able to settle to the point that decision can be made as to fair prices over the next six months of the year.

Some refiners and distributors are hopeful that new regulations in regard to contracts will come out of the hearings. They feel that the present confusion among all classes of buyers is to a large extent due to the N.R.A. regulations which forbid flat price agreements while the top price provisions have been interpreted as the probable prices to be charged the buyers once the contracts are signed. They believe that more flexibility in making the contracts will end many of the complaints and bring a resumption of normal trading which will be a benefit to both buyers and sellers.

Lubricating Oil Situation

The situation which has brought about the collapse in cylinder stocks quotations has been discussed in these columns from time to time over the past few weeks. The demand for these products which was heavy during the last half of 1933 started to slump as soon as the peak prices were established early this year. This decrease in demand was probably due both to the fact that many buyers had bought in excess of their immediate requirements and had material in storage and the fact that with higher prices, some compounders and other buyers shifted to cheaper oils.

This situation applies particularly in the case of Pennsylvania grade steam refined stocks and bright stocks. At the top prices which prevailed for several weeks a 10 pour test bright stock at Oil City was quoted at 30 cents with a similar pour test from Mid-Continent crudes quoted at 24 cents Tulsa and 25 to 26 cents at the Gulf. The disparity in the case of neutral oils was greater, the Pennsylvania 200-3 color selling at 30 cents at a time when the same viscosity material in the Mid-Continent was bringing 10 to 11 cents per gallon and Gulf Coast pale neutrals were bringing 8 to 9 cents per gallon.

This situation is said to have brought considerable shifting to the Mid-Continent cylinder stocks and Gulf Coast neutrals among buyers who refused to pay more for the improved properties of the Pennsylvania oils. This condition has developed in both export and domestic markets. The recent price reductions indicate a determination on the part of the Pennsylvania grade refiners to recover whatever markets they have lost due to the lower quotations of their competitors. The main market for the Pennsylvania oil is based on the properties of their oils plus a world wide acceptance of their finished products but in the sale of certain stocks and neutrals the competition of other oils has to be recognized.

In regard to bright stocks, there is the additional fact that this product does not play as an important part in the compounding of finished motor oils as it did two years ago. The demand for lighter oils has shifted business away from oils containing large quantities of stock to oils with increased percentages of neutrals. It is contended that this development is permanent and should be taken into consideration in the future production of stocks. This relative situation is indicated in the fact that while at this time there is an excess storage of cylinder stocks many refiners do not have sufficient neutral oil output and inventories to cover their requirements.

Those who are hopeful that conditions will not result in a long drawn out "price war" among manufacturers of lubricating oils which shortly will be reflected in retail markets, are suggesting a study of conditions under the direction of the government. Such a study could determine the market for the various products due to changed conditions and through a plan similar to that being carried out in the case of gasoline production could be allocated to the several refining groups.

Prices

Except for the reductions in steam refined stock and bright stocks, eastern refinery prices have shown little change over the past week. The gasoline market at New York ranges from 6 cents for

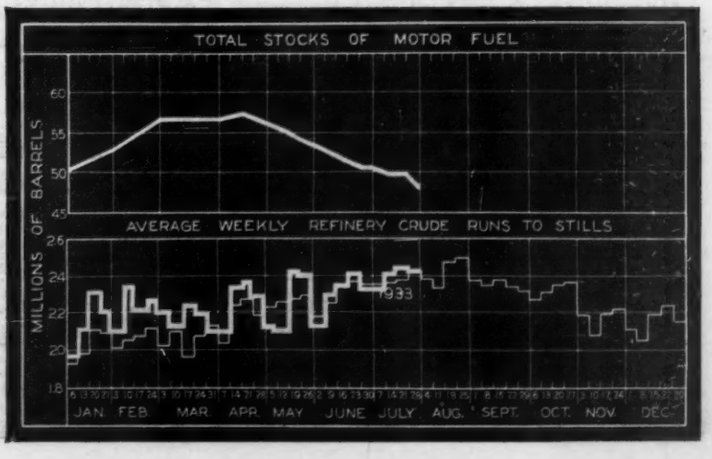
(Continued on Page 42)

American Petroleum Institute Weekly Refinery Statistics

Week Ending July 28, 1934

	Capacity reporting per cent	Daily crude runs (bbls.)	Finished motor fuel (bbls.)	Gas oil and fuel oil (bbls.)
East Coast	100.0	508,000	15,187,000	10,873,000
Appalachian	93.3	105,000	1,577,000	1,122,000
Indiana, Illinois, Kentucky	94.6	332,000	7,388,000	4,025,000
Oklahoma, Kansas, Missouri	83.7	256,000	5,007,000	3,522,000
Inland Texas	47.6	94,000	1,051,000	1,526,000
Texas Gulf	97.5	487,000	3,816,000	8,106,000
Louisiana Gulf	96.4	122,000	1,359,000	1,934,000
North Louisiana and Arkansas	83.7	64,000	253,000	502,000
Rocky Mountain	66.7	38,000	798,000	624,000
California	96.9	458,000	12,161,000	78,639,000
Total United States	89.7	2,464,000	48,597,000	110,883,000

Note: Finished motor stocks shown in graph and in table include those at refineries, at bulk terminals and in pipe lines, but do not include 5,000,000 to 7,000,000 bbls. of unfinished gasoline which could be reprocessed quickly.



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

Quotations are exclusive of the Federal tax of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasolines

OKLAHOMA (Group 3)—	July 31		July 24	
U. S. Motor grades:				
Below 60 octane	.03⅞	.04⅛	.03⅞	.04⅛
60-64.9 octane	.04½	.04⅝	.04½	.04⅝
65-70 octane	.04⅞	.05	.04⅞	.05
60-62 400 grades:				
Below 60 octane	.03⅞	.04⅛	.03⅞	.04⅛
60-64.9 octane	.04½	.04¾	.04½	.04⅝
65-70 octane	.05	.05¼	.05	.05¼
64-66 375	.04½	.04⅝	.04½	.04⅝
68-70 360	.04⅝	.04½	.04⅝	.04½
NORTH TEXAS—				
U. S. Motor grades:				
Below 60 octane	.03¾	.03⅞	.03¾	.03⅞
60-64.9 octane	.04⅜	.04½	.04⅜	.04½
65-70 octane	.04⅝	.04⅞	.04⅝	.04⅞
60-62 400	.03⅞	.04	.03⅞	.04
64-66 375	.04		.04	
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 60 octane	.04¼		.04¼	.04¼
60-64.9 octane	.05		.04⅞	.05
65-70 octane	.05¼		.05¼	.05⅜
60-62 400	.04½	.04⅝	.04½	.04⅝
68-70 360	.04⅜	.04⅝	.04⅜	.04⅝
ARKANSAS (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 60 octane	.04¼		.04¼	.04¼
60-64.9 octane	.05		.04⅞	.05
65-70 octane	.05¼		.05¼	.05⅜
CHICAGO (based on Oklahoma Group 3)—				
U. S. Motor grades:				
Below 60 octane	.03¾	.04	.03¾	.04
60-64.9 octane	.04½	.04¾	.04½	.04⅝
65-70 octane	.04⅞	.05	.04⅞	.05
60-62 400	.03⅞	.04	.03⅞	.04
64-66 375	.04⅛	.04¼	.04⅛	.04¼
68-70 360	.04⅝	.04½	.04⅝	.04½
Aviation fighting grade	.05⅛	.05¼	.05⅛	.05¼
PENNSYLVANIA (inland refineries)—				
58-60 U. S. Motor:				
Below 60 octane	.05⅝	.05⅞	.05⅝	.05⅞
60-64.9 octane	.06⅛	.06⅜	.06⅛	.06⅜
65-70 octane	.06⅜	.06⅞	.06⅜	.06⅞
68-70 350	.06¼		.06¼	
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.07	.08	.07	.08
58-60 400	.07¾	.08¾	.07¾	.08¾
EAST COAST—				
U. S. Motor, below 60 octane:				
*New York	.06	.06¼	.06	.06¼
Baltimore	.06	.06¼	.06	.06¼
U. S. Motor, 60-64 octane:				
*New York (Bayonne)	.06¼	.06½	.06¼	.06½
Philadelphia	.06¼	.06½	.06¼	.06¼
Boston	.06¼	.0670	.06¼	.0670
Baltimore	.06¼	.06½	.06¼	.06½
Charleston, S. C.	.06¼	.06½	.06¼	.06½
U. S. Motor, 65 and above:				
*New York (Bayonne)	.06½	.06¾	.06½	.06¾
Philadelphia	.06½	.06¾	.06½	.06¾
Boston	.0650	.0690	.0650	.0690
Baltimore	.06½	.06¾	.06½	.06¾
Charleston, S. C.	.06½	.06¾	.06½	.06¾

*All grades of gasoline one-fourth cent less for small barge shipments.

GULF COAST (domestic)—				
U. S. Motor:				
Below 60 octane	.04⅞	.05⅛	.04⅞	.05⅛
60-64.9 octane	.05⅛	.05⅜	.05⅛	.05⅜
65 octane and higher	.05⅜	.05⅝	.05⅜	.05⅝

Naphthas

	July 31		July 24	
PENNSYLVANIA (inland refineries)—				
60-64 430-450 (blending)	.05⅝	.05½	.05⅝	.05½
CHICAGO (based on Oklahoma Group 3)—				
50-52 450 (blending)	.03¾	.04	.03¾	.04
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-320 e.p.	.06¾	.07	.06¾	.07
Lacquer diluent, 180 i.b.p., 250 e.p.	.07¾	.08	.07¾	.08
Lacquer diluent, 180 i.b.p., 200 e.p.	.08¾	.09	.08¾	.09
Rubber solvent, 68-70 gr., 100 i.b.p.-330 e.p.	.06¾	.07	.06¾	.07
Stoddard solvent, 300 i.b.p.-410 e.p., over 33° flash	.06¼	.06½	.06¼	.06½
Pet. thinner, 290-300 i.b.p.-415 e.p., over 33° flash	.06¼	.06½	.06¼	.06½
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.06¾	.07	.06¾	.07
Petroleum spirits	.05¾	.06	.05¾	.06

Natural Gasolines

OKLAHOMA (Group 3)—	July 31		July 24	
Grade 26-70	.03		.03	
Grade 18-55	.03½	.03⅝	.03⅝	.03½
Low vapor pressure grades:				
15 lb. v.p. (max.)	.03¾		.03⅝	
11 lb. v.p. (max.)	.03¾	.04	.03⅜	.03⅝
NORTH TEXAS—				
Grade 26-70	.03		.03	
Grade 18-55	.03½	.03⅝	.03⅜	.03½
Low vapor pressure grades:				
15 lb. v.p. (max.)	.03¾		.03⅝	
11 lb. v.p. (max.)	.03¾	.04	.03⅝	.03¾
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
Grade 26-70	.03⅜		.03⅝	
CALIFORNIA—				
75-85 375	.06	.06¾	.06	.06¾

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	July 31		July 24	
41-43	.03⅛	.03⅜	.03⅛	.03⅜
42-44	.03⅜	.03⅝	.03⅜	.03⅝
NORTH TEXAS—				
40-41	.02⅞	.03⅛	.02⅞	.03⅛
41-43	.03	.03¼	.03	.03¼
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
41-43	.03⅜		.03¼	
ARKANSAS (Ark., N. La. & Miss. del.)—				
41-43	.03⅜	.03½	.03⅜	.03½
PENNSYLVANIA (inland refineries)—				
45	.04⅝	.04½	.04⅝	.04½
46	.04½	.04⅝	.04½	.04⅝
47	.04⅝	.04⅞	.04⅝	.04⅞
CHICAGO (based on Oklahoma Group 3)—				
41-43	.03½	.03¼	.03½	.03¼
42-44	.03⅜	.03½	.03⅜	.03½
CALIFORNIA (Pacific Coast consumption)—				
38-40 high burning test	.04¾	.05¼	.04¾	.05¼
NEW YORK (Bayonne, N. J.)—				
41-43	.05¼	.05½	.05¼	.05½
GULF COAST (domestic)—				
41-43	.04½	.04⅝	.04½	.04⅝

Petroleum Coke

(Prices per ton f.o.b. refineries in Chicago area)
(Refineries will absorb freight to 80 cents a ton)

	July 31		July 24	
Breeze (screenings)	5.00		5.00	
Pile run	5.00		5.00	
Lump and egg	7.00	8.00	7.00	8.00
Direct from still	6.00		6.00	

Furnace Oils and Tractor Fuels

(Zero cold test under 190° flash and good odor)

OKLAHOMA (Group 3)—	July 31		July 24	
32-36 straw	.02½	.02⅝	.02½	.02⅝
36-38 straw	.02⅝	.02¾	.02½	.02⅝
38-40 straw	.02⅝	.02½	.02⅝	.02½
38-40 prime white	.02⅝	.02¾	.02⅝	.02¾
NORTH TEXAS—				
38-40 straw	.02⅝	.02¾	.02⅝	.02¾
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
36-40 furnace oil	.02⅛	.03	.02⅛	.03
ARKANSAS (Ark., N. La. & Miss. del.)—				
32-36 furnace oil	.02⅝	.02¾	.02⅝	.02¾
CHICAGO (based on Oklahoma Group 3)—				
32-36 straw	.02⅝	.02½	.02¼	.02½
38-40 straw	.02⅝	.02½	.02¼	.02½
38-40 prime white	.02½	.02⅝	.02⅜	.02½
NEW YORK (Bayonne, N. J.)—				
36-40 (No. 1 grade)	.05¼	.05½	.05¼	.05½
32-36 (No. 2 grade)	.04¾	.05	.04¾	.05
21 industrial (No. 4 grade)	.04½	.05	.04½	.05

Gas Oil, Diesel Oil and Fuel Oil

(Gas oil per gallon; Diesel and fuel oils per barrel)

OKLAHOMA (Group 3)—	July 31		July 24	
32-36 gas oil cracking stocks	.02⅛	.02¼	.02⅛	.02¼
U.G.I. gas oil	.02	.02½	.02	.02½
32-36, zero to 15 gas oil	.02⅜	.02½	.02⅜	.02½
28-30, No. 3 burner oil	.95	1.00	.95	1.00
28-30, zero to 10 fuel oil	.90	.95	.90	.95
26-30, zero to 10 fuel oil	.85	.90	.85	.95
24-26 fuel oil	.75	.80	.75	.80
20-22 fuel oil	.67½	.70	.67½	.70
Below 16 fuel oil	.62½	.65	.62½	.65
NORTH TEXAS—				
32-36 gas oil, industrial	.01⅞	.02	.01⅞	.02
22-26 fuel oil	.67½	.70	.67½	.70
Below 20 fuel oil	.57½	.62½	.57½	.62½
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
30-32 gas oil, zero	.02½	.02⅝	.02½	.02⅝
14-16 fuel oil	.70	.75	.70	.75
ARKANSAS (Ark., N. La. & Miss. del.)—				
30-32 gas oil, zero	.02½	.02⅝	.02½	.02⅝
32-36 gas oil	.02⅝	.02½	.02⅝	.02½
14-16 fuel oil	.70	.75	.70	.75
CHICAGO (based on Oklahoma Group 3)—				
32-36 gas oil, industrial	.02	.02¼	.02½	.02¾
28-30 zero to 10, fuel oil	.97½	1.00	.97½	1.00
26-28 zero to 10, fuel oil	.87½	.90	.87½	.90
22-26 zero to 10, fuel oil	.77½	.80	.77½	.80
18-22 zero to 10, fuel oil	.62½	.65	.62½	.65
Below 18 fuel	.55	.57½	.55	.57½

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel less in all these areas.

PENNSYLVANIA (inland refineries)—				
36-40	.03⅞		.04	
CALIFORNIA—				
Los Angeles:				
30-34 gas oil per bbl.	1.10	1.26	1.10	1.25
27 plus Diesel	1.05	1.20	1.05	1.20
27 plus Diesel (bunkers)	1.13	1.20	1.12½	1.20
12-16 (bunker at tidewater)	.82	.85	.82½	.85
10-16 (cargo lots)	.66	.75	.66	.75
12-17 (tank cars)	.60	.80	.60	.75
San Joaquin Valley:				
10-18 (tank cars)	.55		.70	
San Francisco:				
27 plus Diesel per bbl.	1.15		1.25	
27 plus Diesel (bunkers)	1.19		1.19	
10-16 (bunkers)	.89		.89	
GULF COAST—				
28-30 gas oil	.03½	.03¾	.03½	.03¾
28-30 Diesel (bunkers)	1.80		1.80	
Bunker C (bulk cargoes)	.95	1.00	.95	1.00
Bunker C (bunkers)	1.05	1.10	1.05	1.10
NEW YORK (Bayonne, N. J.)—				
27 plus, gas oil	.04½	.05	.04½	.05
28-30 Diesel (lighterage 6½ cents per bbl.)	1.95		1.95	
*Bunker C (to ocean-going ships in N. Y. harbor)	1.30		1.80	

*Lighterage charge 5 cents per barrel additional.

Neutral Oils

(Vis. at 100° F. except Pennsylvania, and color N.P.A.)

OKLAHOMA (Group 3)—	July 31	July 24
Zero to 10 Cold Test:		
150-3	.10	.10
180-3	.11¼	.11¼
180-4	.10¾	.10¾
200-3	.11¾	.11¾
200-4	.11¼	.11¼
240-3	.13¾	.13¾
240-4	.13¼	.13¼
280-3	.14¾	.14¾
280-4	.14	.14
300-3½	.15¼	.15¼
400-4	.17¼	.17¼
100-2 paraffin oil	.05¾	.05¾
15-30 Cold Test:		
200-3	.10¾	.10¾
200-4	.10¼	.10¼
240-3	.12¾	.12¾
240-4	.12¼	.12¼
280-3	.13¾	.13¾
280-4	.13	.13
GULF COAST—		
Pale Oils:		
200-3	.07½	.07½
300-3	.08 .08¼	.08 .08¼
500-3½	.09 .09¼	.09 .09¼
750-3½	.09½ .09¾	.09½ .09¾
1,200-3½	.10 .10¼	.10 .10¼
2,000-4	.10¼ .10½	.10¼ .10½
Red Oils:		
200-5-6	.06½	.06½
300-5-6	.07 .07¼	.07 .07¼
500-5-6	.08 .08¼	.08 .08¼
750	.08½ .08¾	.08½ .08¾
1,200-5-6	.09 .09¼	.09 .09¼
CALIFORNIA—		
Pale Oils:		
100-2½-3	.23 .25	.23 .25
200-2½-3	.23 .25	.23 .25
300-3-3½	.23 .25	.23 .25
350-3-4	.23 .25	.23 .25
400-3-4	.23 .25	.23 .25
450-3-4	.23 .25	.23 .25
550-3-4	.23 .25	.23 .25
600-3-4	.23 .25	.23 .25
Red Oils:		
200-4-5	.23 .25	.23 .25
300-5-6	.23 .25	.23 .25
350-5-6	.23 .25	.23 .25
400-5-6	.23 .25	.23 .25

450-5-6	.23	.25	.23	.25
500-5-6	.23	.25	.23	.25
600-5-6½	.23	.25	.23	.25
700-6½ plus	.23	.25	.23	.25
750-6½ plus	.23	.25	.23	.25
900-6½ plus	.23	.25	.23	.25
PENNSYLVANIA—				
150 vis. at 70° F., 3 color; 400-405 flash:				
Zero pour test	.23	.23½	.23½	.24
10 pour test	.22	.22½	.22½	.23
15 pour test	.21½	.22	.22	.22½
25 pour test	.21	.21½	.21½	.22
180 vis at 70° F., 3 color:				
25 pour test	.24½	.25	.25	.25½
200 vis. at 70° F., 3 color:				
Zero pour test	.28½	.30½	.30	.31
10 pour test	.28½	.29	.29	.29½
15 pour test	.28	.28½	.28½	.29
25 pour test	.27½	.28	.28	.28½

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	July 31	July 24
Bright Stocks:		
190-200 D	.21¾	.23¾
150-160 D, 0-10	.19	.21
150-160 D, 10-25	.18½	.20½
150-160 25-40	.18	.20
150-160 E	.18	.20
Steam refined:		
630 light green (treated)	.13	.13
600 light green (untreated)	.06 .08	.06 .08
600 dark green (untreated)	.04½ .07	.04½ .07
PENNSYLVANIA—		
Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 210; 540-550 flash):		
10 pour test	.23½ .24	.25½ .26
15 pour test	.23 .23½	.25 .25½
20 pour test	.22½ .23	.24½ .25
25 pour test	.21 .21½	.24 .24½
Steam refined:		
600	.12	.14 .14½
650	.15	.16½ .17
600 Pennsylvania flash	.16	.17½ .18
630 Pennsylvania flash	.21½	.22 .22½
600 Warren E filtered	.16 .17	.17½ .18

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	July 31	July 24
124-126 while crude scale	.03¼ .03⅜	.03¼ .03⅜
PENNSYLVANIA—		
122-124	.03 .0305	.03 .0305
124-126	.0315 .0320	.0315 .0320
NEW YORK HARBOR—		
Wax (a.m.p.) in bags fully refined:		
120-122	.0420 .0430	.0420 .0430
123-125	.0440 .0460	.0440 .0460
125-127	.0445 .0470	.0445 .0470
128-130	.0480 .0495	.0480 .0495
130-132	.05 .0510	.05 .0510
133-135	.0545 .0570	.0545 .0570
135-137	.0570 .0595	.0570 .0595
124-126 crude scale	.032 .0325	.032 .0325
Petrolatum in barrels in carload lots:		
Dark green	.01⅞	.01⅞
Amber	.02⅞ .03	.02⅞ .03
Extra amber	.03¼ .03½	.03¼ .03½
Lily white	.06¾ .06⅞	.06¾ .06⅞
Snow white	.07¾ .07⅞	.07¾ .07⅞
Cream	.05⅝ .05¾	.05⅝ .05¾
CHICAGO (f.o.b. switching district)*—		
122-124 wax	.0490 .0500	.0490 .0500
125-127 wax	.0515 .0525	.0515 .0525
127-129 wax	.0530 .0540	.0530 .0540
130-132 wax	.0590 .0600	.0590 .0600
132-134 wax	.0615 .0625	.0615 .0625

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx. Add 3° F. a.m.p.

Export Prices

GASOLINE

GULF COAST—	July 31	July 24
U. S. Motor	.04½ .04¼	.04½ .04¼
60-62 400	.04¼	.04¼
61-63 390	.04⅜ .04½	.04⅜ .04½
64-66 375	.04½ .04⅝	.04½ .04⅝
LOS ANGELES, CALIF.—		
U. S. Motor grades:		
53-55 octane	.04 .04¼	.04 .04¼
55-65 octane	.04¼ .04½	.04¼ .04½
65-67 octane	.04½ .04¾	.04½ .04¾
67-69 octane	.04¾ .05	.04¾ .05
Above 69 octane	.05 .05¼	.05 .05¼
58-60 400 endpoint	.04¾ .05½	.04¾ .05½

KEROSENE

GULF COAST—				
41-43 prime white	.04	.04½	.04	.04½
41-43 water white	.04½	.04¾	.04½	.04¾
41 water white	.04¼	.04⅝	.04¼	.04⅝
LOS ANGELES, CALIF.—				
41-43 water white	.04¼	.04¾	.04¼	.04¾

LUBRICANTS

NEW YORK (f.a.s. in bbls.)—				
Cylinder Stocks:				
600 Warren E	.23	.23½	.25	.26
600 S.R. unfiltered	.19	.19½	.22½	.23
650 S.R. unfiltered	.22	.22½	.25	.26
600 flash S.R.	.23½		.25	.27
630 flash S.R.	.28	.28½	.30½	.31
Bright Stocks:				
S color	.28	.28½	.32	.33
6½ plus color, in dilution	.27	.27½	.30	.32

NEUTRAL OILS

200-3 color	.33½	.34	.34	.35
150-3 color	.28	.28½	.28	.29

PARAFFIN WAX (Fully Refined)

NEW YORK (prices per pound)—				
120-122 a.m.p.	.0405	.0425	.0405	.0425
123-125 a.m.p.	.0435	.0455	.0435	.0455
125-127 a.m.p.	.0440	.0465	.0440	.0465
128-130 a.m.p.	.04¾	.0490	.04¾	.0490
130-132 a.m.p.	.0495	.0505	.0495	.0505
133-135 a.m.p.	.0540	.0565	.0540	.0565
135-137 a.m.p.	.0565	.0590	.0565	.0590

Crude Oil Gravity Table

Degrees gravity—	1 Oklahoma and Kansas	2 North Texas, Central Texas and East Central Texas	3 North Louisiana and Arkansas	4 Gray County, Texas	4 Carson, Hutchinson, and Moore Counties, Texas	4 Conroe, Texas	7 Salt Creek, Wyo.	8 Gulf Coast, Texas and Louisiana	9 Gulf Coast, Texas and Louisiana	10 Sutton Valley, Louisiana
Below 30	....	....	....	....	....	....	....	$.82	$.82	....
30-30.9	....	....	....	....	....	....	....	.84	.84	....
31-31.9	....	....	....	....	....	....	....	.86	.86	....
32-32.9	....	....	....	....	....	....	....	.88	.88	....
33-33.9	....	....	....	....	....	....	....	.90	.90	....
34-34.9	....	....	....	....	....	....	....	.92	.92	....
Below 35	*$.76	....	....	....	....	....	....	....	....	$.76
35-35.9	*.78	....	....	....	....	....	....	.94	.94	.73
36-36.9	*.80	....	....	....	....	....	....	.96	.96	.74
37-37.9	*.82	....	....	....	....	....	....	.98	.98	.76
38-38.9	*.84	....	....	....	....	....	....	1.00	1.00	.78
Below 39	.84	$.78	$.79	....	....	....	$.81	....	....	....
39-39.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.80
40-40.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.83
41-41.9	.90	.86	.86	....	....	....	.90	1.06	1.06	.84
42-42.9	.92	.87	.87	....	....	....	.92	1.08	1.08	.86
43-43.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.88
44-44.9	.96	.91	.91	....	....	....	.96	1.12	1.09	.90
Below 45	....	....	....	$.79	$.80	....	....	....	....	....
45-45.9	.96	.93	.93	.81	.71	$1.09	.98	1.13	1.09	.92
46-46.9	1.00	.95	.95	.83	.73	1.11	1.00	1.13	1.10	.94
47-47.9	1.02	.97	.97	.85	.75	1.13	1.02	1.13	1.11	.96
48-48.9	1.04	.99	.99	.87	.77	1.15	1.04	1.13	1.13	.98
49-49.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.13	1.13	1.00
50 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.17	1.14	1.02

Note.—Effective June 1, 1934, Texas Co. purchases Texas Panhandle crude on a sweet crude and sour crude basis. Panhandle sweet crude is paid for on a basis of the Gray County prices posted above, and Panhandle sour crude is paid for on a basis of Carson and Hutchinson County prices posted above.

*The following companies purchasing crude oil in Kansas or Oklahoma, or both, begin their price schedule: Below 35°, 76 cents; 35-35.9°, 78 cents, with 2 cents added for each degree upward to 40 and over at $1.08; Carter Oil Co., Magnolia Petroleum Co., Pure Oil Co., Rock Island Refining Co., Shell Petroleum Corp., Sinclair Prairie Oil Marketing Co., Skelly Oil Co., and Wilcox Oil & Gas Co. All others begin their schedules at below 39°, 84 cents, excepting Phillips Oil Co., which begins with below 31° at 88 cents.

Column 1.—Effective September 29, Texas Co. in Oklahoma; Stanolind Crude Oil Purchasing Co. in Kansas and Oklahoma; Anderson & Prichard, Inc., in Oklahoma; Bell Oil & Gas Co. in Oklahoma; Carter Oil Co. in Oklahoma and Kansas; Deep Rock Oil Co. in Oklahoma; Derby Oil Co. in Kansas; Globe Refining Co. in Oklahoma; Golden Rule Refining Co. in Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Kanotex Refining Co. in Kansas; Magnolia Petroleum Co. in Oklahoma; Mid-Continent Petroleum Corp. in Oklahoma; National Refining Co. in Kansas and Oklahoma; Shell Petroleum Corp. in Kansas and Oklahoma; Sinclair Prairie Oil Marketing Co. in Kansas and Oklahoma; Texas Co. in Oklahoma; Tide Water Oil Co. in Oklahoma; Vickers Refining Co. in Kansas; Continental Oil Co. in Kansas and Oklahoma; Empire Pipe Line Co. in Oklahoma and Kansas; Phillips Oil Co. in Kansas and Oklahoma; Pure Oil Co. in Oklahoma; Skelly Oil Co. in Kansas. Effective September 29, by White Eagle Oil Corp. in Kansas; Oct. 1 by Barnsdall Refineries, Inc., in Oklahoma.

Column 2.—Effective September 29, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co., Continental Oil Co. Effective September 29, in the Van Pool, Van Zandt County, Pure Oil Co. posted below 29°, 84 cents, with 2 cents added for each degree up to 40 and over at $1.08.

Column 3.—Effective September 29, by Texas Co., Magnolia Petroleum Co., Gulf Refining Co. Effective December 12, Stanolind Oil & Gas Co. in Pine Island, Louisiana, and Marion County, Texas, posted below 29°, 79 cents, with 2 cents added for each degree up to 40 and over at $1.03. Effective March 17, 1934, by Standard Oil Co. of Louisiana and Louisiana Oil Refining Co. Starting with below 25°, 71 cents, adding 2 cents for each degree upward to 40 and over at $1.03.

Column 4.—Effective September 29, by Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co., and H. F. Wilcox Oil & Gas Co. On same day Phillips Oil Co. posted below 31°, 71 cents, with 2 cents added for each degree up to 40 and over at 81 cents. Effective June 1, 1934, Texas Co. (see note above).

Column 5.—Effective September 29, by Texas Co., Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co., Continental Oil Co. On same day, Phillips Oil Co. posted below 31°, 61 cents, with 2 cents added for each degree upward to 40 and over at 81 cents. Effective June 1, 1934, Texas Co. (see note above).

Column 6.—Effective September 29, by Humble Oil & Refining Co. and Tide Water Oil Co., and on September 28, by Texas Co. which on September 29 had posted a schedule of $1.07 to $1.12 with a 1-cent spread on each degree.

Column 7.—Effective September 29, by Stanolind Oil & Gas Co.

Column 8.—Effective September 29, by Humble Oil & Refining Co., Gulf Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., Sinclair Prairie Oil Marketing Co. On October 2, Magnolia Petroleum Co. posted Lockport, Louisiana: 30-30.9°, 84 cents with 2 cents added for each degree upward to 34 and over at $1.12, and in Cameron Meadows and Iowa, Louisiana: Below 30°, 72 cents with 2 cents added for each degree up to 36 and over at $1.02. These prices were 2 cents higher on each degree than Magnolia prices posted on September 28. Effective September 29, Shell Petroleum Corp. posted in Iowa, Louisiana, district: Below 30° 70 cents, with 2 cents added for each degree upward to 34° and over at $1; and in Black Bayou and White Castle, Louisiana: Below 30°, 80 cents, with 2 cents added for each degree upward to 34° and over at $1.10.

Column 9.—Effective September 29, Texas Co. (On September 28, Texas Co. had posted a schedule of 2 cents on each degree, but changed it on September 29.)

Column 10.—Effective September 29, by Louisiana Oil Refining Co.

(California Crude Oil Prices on Page 44)

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas	$1.00
Stratman, Kans. (Sept. 29, 1933)	1.03
Corsicana (heavy) (June 17, 1933)*	.30
Other fields	(See gravity table)

Note—In East Texas, effective September 29, 1933, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co., and Empire Oil & Refining Co.

*Magnolia Petroleum Co.

West Texas

Crane, Upton, Crockett, Howard Glasscock, Mitchell (Sept. 29, 1933)	$.70
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29, 1933)	.73
Pecos County, Yates shallow pool (Sept. 29, 1933)*	.65
Jones and Fisher Counties	See gravity table

Note—Effective September 29, 1933, by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.

*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers	(See gravity table)
Tomball (see note)*	$1.16
Livingston (Sept. 29, 1933)†	1.00
Cleveland (Jan. 11, 1934)	1.09
Greta (Sept. 29, 1933)	.86
Refugio, light	(See gravity table)
Refugio, heavy (Sept. 29, 1933)‡	.86
Markham and High Island	(See Gulf Coast gravity table)
Conroe	(See Conroe gravity table)

Note—Tomball, effective September 29, by Humble Oil & Refining Co., and October 2, by Magnolia Petroleum Co., and November 10, by Stanolind Oil & Gas Co.

*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy, by Humble Oil & Refining Co. Cleveland (Liberty County) posted by Magnolia Petroleum Co.

South Central and Southwest Texas

(See note below table)

Darst Creek	$.87
Mirando	.86
Luling (Sept. 29, 1933)	.75
Pettus	1.01
Salt Flat	.87
Lytton Springs (Sept. 29, 1933)	.95
Duval County (Sept. 29, 1933)	.80
Saxet	.85

Note—Effective on September 29 by Humble Oil & Refining Co., in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective September 29 in Darst Creek by Gulf Pipe Line Co. and Texas Co. Effective October 2 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on September 29 by Humble Oil & Refining Co. and Gulf Pipe Line Co. Luling and Lytton Springs by Magnolia Petroleum Co. Duval County by Texas Co. Saxet, effective September 29, by Humble Oil & Refining Co. and Texas Co.

(Continued on Page 44)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

July 31, 1934

Taxes

The gasoline quotations given in the following tables include the 1 cent Federal tax, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank wagon, or 3 cents a gallon off retail prices, is permitted for purchases running between 1,000 and 10,000 gallons a month, and 2 cents a gallon off tank wagon, or 4 cents a gallon off retail prices, for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Denver, Colo.	18 0	20.0	6.0	10.0
Pueblo	18 0	20.0	6.0	13.0
Grand Junction	19.0	21.0	6 0	15 0
Casper, Wyo.	18.0	20.0	5.0	11.5
Cheyenne	18.0	20.0	5.0	13 0
Butte, Mont.	21 0	23.0	5.0	17 5
Billings	22.5	24.5	6.0	16.5
Helena	23.0	25.0	6.0	17.5
Great Falls	21.5	23.5	6.0	17.5
Salt Lake, Utah	19.0	21.0	5.0	16.0
Boise, Idaho	22.5	24.5	6.0	18.0
Twin Falls	22.5	24.5	6.0	18.0
Albu'que, N. M.	18.0	20.0	*7.0	13.0

*One-cent city tax.

Effective March 1, 1934, discount to dealers with or without contract throughout Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 3½ cents.

Standard Oil Co. (Indiana)

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Chicago	16.3	17.3	4.0	9.7
Decatur, Ill.	16.0	18.0	4.0	10.2
E. St. Louis	16.0	16.5	4.0	9.5
Joliet	16.2	16.2	4.0	10.2
Peoria	16.7	18.9	4.0	10.2
Quincy	16.6	17.1	4.0	10.0
Davenport, Ia.	16.6	17.1	4.0	10.1
Des Moines	16 0	17.1	4.0	8.0
Mason City	16 6	17.1	4.0	9.5
Sioux City	13.9	13.9	4.0	9 7
Duluth, Minn.	17.2	19.2	4.0	10 4
Mankato	16.5	16 5	4.0	10.3
Minneapolis	15.4	17.4	4.0	10.4
LaCrosse, Wis.	16.3	20.3	4.5	10 3
Green Bay	17.7	19.7	5.0	10 2
Milwaukee	17.1	19.1	5.0	9.7
Madison	17.4	19.4	5 0	9.9
Detroit, Mich.	16.0	18.0	4.0	10.5
Grand Rapids	16.7	17.7	4.0	10.2
Saginaw	17 0	18.0	4.0	10.5
Evansville, Ind.	17.7	19.7	5.0	10 0
Indianapolis	17.0	19.4	5.0	10.2
South Bend	17 2	20.2	5.0	10.5
Fargo, N. Dak.	17.9	19.9	4.0	12 1
Huron, S. Dak.	18.3	20.3	5.0	11 4
Sioux Falls	18.4	20.4	5.0	10 9
Kans. C., Mo.*	15.0	15 0	4.0	9.2
Springfield	15.1	17.1	3.5	9.1
St. Louis	15.0	17.0	3.5	8.7
St. Joseph*	15.3	15.0	4.0	8.3
Wichita, Kans.	14.6	16.6	4.0	10 3
Bartlesville, Ok.	16.0	18.5	5.0	10.5

*State tax 2 cents, 1-cent city tax and 1-cent Federal tax.

Discounts to dealers, effective March 1, 1934: Undivided accounts, 4 cents a gallon on Red Crown Ethyl and Standard Red Crown, divided accounts, 3½ cents a gallon on Red Crown Ethyl and Standard Red Crown.

Stanolax Furnace Oil in Chicago

Effective June 27, 1934, f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. sere), under 100 gallons, 8¼ cents. Effective May 16, 1934, No. 2 (30-34 stw. sere), under 150 gallons, 7¾ cents; No. 3 (32-36 sere), under 150 gallons, 7¼ cents; No. 4 (12-16 sere), under 400 gallons, 6 cents; viscosity of No. 4, 90-115 at 100° F.; No. 5, under 400 gallons, 5¾ cents. For deliveries above stated quantities deduct 1 cent.

Naphtha

	Tank wagon*
Oleum spirits	18 0
V.M.&P. naphtha	18.0
Cleaners' naphtha	18 0
Stanisol	18.0

*Prices include 3-cent Illinois tax, but not 1-cent Federal tax.

Prices f.o.b. Chicago, September 13, 1933. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Atlanta, Ga.	19.0	22.0	7.0	14.5
Augusta	20.0	22 0	7.0	14.5
Macon	20 0	22 0	7 0	14.5
Savannah	20.0	22.0	7.0	14.0
Birm'ham, Ala.	20.0	23.0	8.0	12.0
Mobile	20 5	22 5	8.0	12.0
Montgomery	23.5	24.5	8.0	15.0
Jackson, Miss.	19 5	21 5	7 0	13 0
Vicksburg	14.5	16.5	7.0	14.0
Jack'ville, Fla.	20 0	22.0	8.0	11.5
Miami	20 0	22 0	8 0	13 5
Pensacola	17.0	19.0	8.0	13.5
Tampa	20.0	22.0	8.0	12.5
Lexington, Ky.	18 5	20 5	6 0	11 5
Covington	17.0	19 0	6.0	11 5
Louisville	18.0	20.0	6.0	11.0
Paducah	14.5	16.5	6.0	11.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia and Mississippi include 1 cent state tax; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline; in Florida an inspection fee of one-eighth cent on kerosene and gasoline. To Pensacola, Mobile and Birmingham state taxes on gasoline add 1 cent city tax.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Dallas, Tex.	17 0	19 0	5.0	8.0
Fort Worth	17.0	19.0	5.0	8 0
Houston	16.0	18.0	5.0	8.5
San Antonio	16.0	18.0	5 0	8.5
El Paso	18.0	20 0	6.0	11.0
Muskogee, Okla.	16 0	18.0	5.0	7.5
Okla. City	15.0	17.0	5.0	8.5
Tulsa	16 0	18 0	5.0	8.5
Ft. Smith, Ark.	16 6	18.6	5.0	8.0
Little Rock	16.5	18.5	7.5	9 0
Texarkana	17.0	19.0	5.0	8.0

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Atl'tic City, N.J.	19.0	13.5	4.0	10 0
Newark	18.3	17.8	4.0	9 5
Annapolis, Md.	19 6	19 1	5 0	10 0
Baltimore	19.1	18.6	5 0	9.5
Cumberland	20.6	20.1	5.0	12.7
Wash'g'n, D. C.	17 3	16 8	3 0	11 5
Danville, Va.	21 7	21.2	6 0	12.9
Norfolk	20.3	19.7	6.0	11.3
Petersburg	21.0	20.5	6.0	11.4
Richmond	20 6	20.1	6.0	11.7
Roanoke	21.8	21.3	6.0	13.9
Charls'n, W. Va.	20.0	19.5	5.0	12.6
Parkersburg	19.3	18.8	5.0	11.3
Wheeling	20 0	19.0	5.0	12.2
Charlotte, N. C.	23.4	22.9	7 0	13.5
Hickory	23.7	23.2	7.0	13.7
Mt. Airy	23 7	23.2	7 0	13 8
Raleigh	23.2	22.7	7.0	13.3
Salisbury	23.5	23.0	7.0	13.6
Charleston, S. C.	21.3	20.7	7 0	11.3
Columbia	23.0	23.0	7.0	13 3
Spartanburg	23.4	22.4	7.0	13.5

Price basis to dealers: Divided dealers at dealer price, which is 2¼ cents above tank car; undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Omaha	17.0	17.0	5.0	9.0
McCook	17 7	18.4	5.0	6.9
Norfolk	17 0	17.0	6.0	9.0
North Platte	17.0	17.0	5.0	9.0
Scottsbluff	18.3	18.3	5.0	9.0

Note—Discount to dealers, including any rentals under lease and agency agreements: Undivided accounts, Standard Red Crown and Red Crown Ethyl Gasoline 4 cents, Reliance (third brand) 3 cents, under service station price. Divided accounts, Standard Red Crown Ethyl Gasoline 3½ cents, Reliance (third brand) 2½ cents, under service station price. Discounts to consumers covered only by form CD-1, official commercial consumer contract.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
N. Orleans, La.	20.8	15.0	*7.0	†10.0
Baton Rouge	20 2	19 7	6 0	†12 0
Alexandria	21.1	19 0	*7.0	†10 0
Lafayette	21.2	20 8	*7.0	†12.0
Lake Charles	21 2	20 7	*7 0	†12 0
Shreveport	19.0	15.0	6.0	†12.0
Knoxville Tenn	24.7	21.5	8.0	13.0
Memphis	23.1	21.5	8.0	10.5
Chattanooga	24.5	21.5	8.0	12.0
Nashville	24 0	21.5	8.0	11.0
Bristol	24.5	21.6	8.0	14.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax.

Price bases to dealers: Divided dealers at dealer price, which is 2¼ cents above tank car; undivided dealers at dealer price less one-half cent.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline: Tank wagon†	Posted retail	Incl'ds tax of	Kero. tank wagon
San Francisco	17.5	19.5	4.0	13.5
Los Angeles	15.5	17.5	4.0	13.5
Fresno, Calif.	18.0	20.0	4.0	14.0
Phoenix, Ariz.	20.0	22.0	6.0	‡16.0
Reno, Nev.	20.0	22.0	5.0	16.5
Portland, Ore.	20.0	22.0	6.0	13.5
Seattle, Wash.	20.0	22.0	6.0	13.5
Tacoma	20.0	22 0	6 0	13.5
Spokane	23.0	25.0	6.0	18.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

‡Includes 5 cents state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Philadelphia, Pa.	15.5	17 5	4 0	10 0
Pittsburgh	16.0	18 0	4 0	10 0
Allentown	15.5	17.5	4.0	10.0
Erie	16.0	18.0	4.0	9 0
Scranton	16 0	18 0	4.0	10.0
Altoona	16 0	18.0	4 0	10.0
Dover, Del.	16.0	18 0	4.0	10.0
Wilm'ington	15.5	17.5	4.0	9.0
Springf'd, Mass.	15 5	17.5	4 0	8.75
Worcester	15.5	17 5	4.0	9 0
Hartford, Conn.	15.0	17.0	3.0	8.5
New Haven	13 0	15.0	3 0	8 5
Providence, R.I.	8.0	10.0	3.0	8.5

Note—Tank wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

New York and Part of New England

STANDARD OIL CO. OF NEW YORK

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Albany, N. Y.	16 5	17.5	4 0	9.0
Met. New York	16.5	17.5	4 0	8.5
Buffalo	17.5	18.5	4.0	9 0
Rochester	17.0	18.0	4.0	9.25
Syracuse	17 0	18 0	4.0	9.25
Boston, Mass.	15.5	16.5	4.0	8 5
Portland, Me.	18.2	19.2	5 0	8 75
Manch't'r N. H.	19.2	20 2	5.0	9.0
Burlington, Vt.	19.8	20.8	5.0	9.75

Commercial consumers allowed 2 cents discount below service station prices in accordance with CD-1 of oil industry's code.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Ohio points	17.5	19.5	5.0	*13.5

*Includes state tax of 1 cent, effective July 22.

Canada*

IMPERIAL OIL, LTD.
Imperial 3-Star Gasoline

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Hamilton, Ont.	†21.5	24.5	6.0	17.5
Toronto, Ont.	†21.5	24 5	6.0	17 5
Brandon, Man.	20 5	23.5	7.0	21 5
Winnipeg, Man.	23 7	31.7	7.0	20.2
Regina, Sask.	29.0	33.0	6 0	21.5
Saskatoon, Sask.	21 5	24.5	6 0	14 2
Edmonton, Alta.	21 5	24.5	6.0	23.7
Calgary, Alta.	23.5	21.5	6.0	21.0
Vancouver, B.C.	†23.0	21.0	7.0	24.5
Montreal, Que.	24 0	27.0	6 0	17.0
S. John, N.B.	26.0	30 0	8.0	21.0
Halifax, N. S.	26.0	30.0	8.0	21.0

Imperial gallon used in Canada. †Governed by service station price.

Maritime provinces, all dealers 4 cents off service station price. All other provinces, open dealers 3 cents off service station price and 1 cent additional to 100 per cent accounts.

Retail Price Changes

Regular-Grade Gasoline and Kerosene

Imperial Oil, Ltd., July 21 reduced tank wagon and station gasoline 1½ cents in St. John.

Standard Oil Co. of Nebraska July 23 reduced tank wagon gasoline .8 cent and station gasoline 1 cent in North Platte.

Standard Oil Co. of Kentucky July 8 reduced tank wagon and station gasoline one-half cent in Paducah; July 15 reduced it one-half cent further; July 16 reduced it one-half cent further. July 10 reduced tank wagon and station gasoline 1 cent in Vicksburg; July 18 reduced it 1 cent further. July 12 reduced tank wagon and station gasoline 1½ cents in Birmingham; July 14 reduced it 1½ cents further; July 16 reduced it 1½ cents further; July 20 advanced it 2 cents. July 26 reduced tank wagon and station gasoline one-half cent in Covington.

Buyers Hard to Find and Group 3 Market Sluggish

(Continued from Page 24)

consequence in the demand for natural gasoline was expected in the near future. The present demand is occasioned in large part by the fact that straightrun gasoline is being withdrawn from storage and an addition of natural is needed to build its volatility up to the required point. The current demand brought about in this way will be followed almost immediately by the usual seasonal demand for the material to be used in making motor fuel for cold weather use.

Following reductions in the quotations for bright stocks in the East Group 3 refiners announced a cut of 2 cents throughout the list. This was on top of a similar cut the week before, making a total reduction of 4 cents in this group of products in the last two weeks. Steam refined stocks, which dropped about a cent last week, were unchanged, but the market lacked strength. Neutrals were holding their own.

Kerosene was weak, but prices were holding. There was a brisk demand for light furnace oils.

STATION OWNERS SIGN PACT

At a meeting called by the Chicago Service Station Operators' Assn., several hundred service station owners signed an agreement to adhere to the new oil marketing cartel plan for the Chicago region. Many more signatures are anticipated at meetings to be called in the near future. The agreement calls for suspension of deliveries of supplies and all other signatory supplies to violators of the code uling.

BOTTOM HOLE PRESSURE TESTS

KILGORE, Tex., July 30.—Bottom hole pressure tests will be taken on 34 key wells in the East Texas Field beginning Tuesday, according to announcement made at the engineering department of the East Texas division of the Railroad Commission.

Four days will be required to complete the tests. The last tests showed an average bottom hole pressure for the field of 1,242 pounds per square inch as of June 8. On account of taking potential tests, bottom hole pressure tests were not taken for the month of July.

Tests taken since the first of the year show bottom hole pressures as follows: January 17, 1,270 pounds; February 6, 1,285 pounds; March 9, 1,264 pounds; April 8, 1,270 pounds; May 7, 1,260 pounds, and June 8, 1,242 pounds.

NATURAL GASOLINE MANUFACTURE

Liquefied Gas Industry Seeks Budget Approval

The code authority for the liquefied gas industry has made application to the administrator for approval of its budget for, and of the basis of contribution by members of the industry to, the expense of administering the code for the period from November 8, 1933, to November 1, 1934. The total sought is $18,960. Objections to the amount may be filed by August 6, 1934. The basis for the request follows:

"Assessment shall be a uniform percentage of each marketer's 'revenue' from liquefied gas activities as hereinafter defined. Minimum assessment for any annual period shall not exceed $2. All marketers shall be subject to assessment except in so far as Paragraph 3 of Administrative Order X-36 shall apply.

"The term 'revenue' for the purpose of assessment shall be the same as defined in Article 5, Section 1, of the code of fair competition for the liquefied gas industry as proposed for revision, as follows:

"(a) For 'marketers' making the first sale of any liquefied gas (producers), 'revenue' shall be the total gas sales income in dollars (invoiced price less earned cash or quantity discounts), Refer to Article 4 (Rule 9 of the code).

"(b) For 'marketers' not included in (a) but deriving income directly from the sale of liquefied gas, 'revenue' shall be the total gas sales income in dollars (invoiced price less earned cash or discounts) less the actual gas purchase price in dollars (invoiced price less earned cash or quantity discounts).

"(c) For any 'marketer' not included in (a) or (b) but who derives income from liquefied gas activities such as fees or commissions for sales or delivery service, etc., 'revenue' shall be the total of all moneys received by said 'marketer' in compensation for such activities, without deduction.

"The 'uniform percentage' for the purpose of assessment shall be a ratio that the emergency national committee shall from time to time determine for the purpose of establishing the factor, which, when applied to the total 'revenue' of all 'marketers' collectively, will approximate within reasonable limits the amount of the budget to be raised by the assessment. This 'uniform percentage' for the current assessment period has been set at fifteen-one-hundredths of 1 per cent.

Texas Shows the Greatest Increase of All States in Natural Gasoline Production

Although the total production of natural gasoline for the year ending May 31, 1934, varied but little over that of the preceding year, the distribution of the sources underwent several changes. The changes, however, were local, and no great shift in output from one general region to another occurred. The state showing the greatest total increase in production was Texas. Within the state the trend was from the districts of North Texas mainly to the Panhandle region. Another strong gain was shown in the East Texas Field. This region has only recently grown enough in production to be classified separately. The growth is rapid, however, and can clearly be traced through the past year.

The sour gas law can be cited as part cause for the vast expansion of production in the Panhandle. This mounting production, although not the greatest per cent rise, easily overshadows all other regions because of its magnitude. The monthly trend of the Texas districts shows a different aspect from the comparison between the two years. East Texas and Panhandle made large gains and all other districts held up with only slight declines in production. With due regard for the seasonal trend, it might be said that Texas has not receded in production in any district. The figure under the heading of rest of Texas would doubtless show a decrease in the last year were it not for the new activity in the Gulf region.

Turning to California one finds several sharp regional changes in output which tend to cancel one another, bringing the state figure to a slight yearly decline. The greatest percentage increase in the United States was made in Huntington Beach. Although small, this district has grown consistently throughout the two years covered in this summary. The same is true of Kettleman Hills and Ventura Avenue, two other relatively new developments, although in a lesser sense. The marked decrease in Santa Fe Springs and Long Beach is to be expected considering the age of the fields.

Oklahoma is the only other state to show any shifts in natural gasoline output. The tendency for the other fields to fall off is more than offset by the Oklahoma City Field which brings the state yearly increase to 106 per cent. However, even this field is not making the gains it formerly did and none of Oklahoma shows other than seasonal trends for the last year.

The fields through the rest of the country show a general dropping off in production with only Kansas gaining. The most pronounced drop is experienced in Arkansas.

Throughout the United States a yearly decrease is evident, but within the last year the increase toward May is eloquent of the overproduction that has caused natural gasoline prices to be so low.

The weight of the increasing stocks has probably been the greatest factor in depressing the natural gasoline market. With stocks on May 31 standing at 145 per cent of the stocks a year previous and with additions being made throughout June it was only logical that prices tend to weaken in June.

The solution does not seem to rest entirely in curtailing production for it has been only 103 per cent of that a year ago. Instead, the objective should be to widen the market scope of natural gasoline. This is being tried through co-operative refinery buying and through efforts to establish super-stabilized natural gasoline in the motor fuel market. One objective acts as a threat or solution for the other so if one does not come about it is only reasonable to expect a substantial movement in the other direction.

So long as natural gasoline stays at 3 cents or better, there is little reason to expect a substantial quantity of 10 and 12-pound stabilized natural gasoline to be manufactured and offered under present weather conditions but when winter weather is approached 15 and 16-pound fuels may be offered and the 3-cent price for the 26-70 grade becomes less attractive. Should refinery gasoline go to 5 cents for a length of time during the winter months, there would be a strong possibility for natural gasoline manufacturers to be led away from making 26-70, even for 3 cents, and will try their luck in the motor fuel market.

Five Plants in Drumright Field to Be Dismantled

Dismantling operations have begun on five natural gasoline plants in the Drumright, Okla., area belonging to the Stanolind Oil & Gas Co., according to G. S. Bays, chief engineer.

These plants were built in 1916 by the Standard Oil Co. (Indiana). About three years ago they were taken over by Stanolind to process gas from the leases of the Prairie Oil & Gas Co. However, due to the consolidation of Prairie with the Sinclair Oil & Gas Co., the plants of the latter will hereafter handle this gas supply.

Stanolind has been engaged for some time in the manufacture of close cut, highly refined solvents. Included among these is a pentane made for the Standard Oil Co. of Indiana, and various solvents for soaps, perfumes, rubber, etc. One of the Drumright plants was equipped for the manufacture of these products. The rectifiers and special equipment of this plant will be transferred to Tonkawa, Okla., to enlarge a plant of the same type there. The remainder of the equipment will be disposed of.

Federal Court Upholds Panhandle Sour Gas Law

The Panhandle sour gas law was upheld as constitutional by the U. S. District Court sitting in Houston Monday. Judge Thomas M. Kennerly also sustained motions of dismissal of six suits filed in the Federal courts last spring attacking the constitutionality of the stripping law. He also held that the railroad commission had the right to grant stripping permits to those who wish to process the gas.

This decision may lead to a further expansion of natural gasoline operations in the Panhandle. This is not looked upon as a constructive move so far as the market is concerned but it is not likely that the further increase in production there will be any thing like as much as the increase in gasoline output since the sour gas law was instituted. Several companies have stated they would be forced to build plants if the sour gas law was not repealed so their position might be influenced by the courts' decision. It is not known whether any definite fight will be made in the Texas legislature for the repeal or modification of the present law.

TREND OF PRODUCTION OF NATURAL GASOLINE IN THE UNITED STATES BY DISTRICTS DURING TWO YEARS ENDING MAY 31, 1934

(Millions of gallons)

	1933 June	July	August	Sept.	Oct.	Nov.	Dec.	1934 Jan.	Feb.	March	April	May	Total year ending May 31, '34	Total year ending May 31, '33	Per cent 1933-34 production was of 1932-33
Appalachian	3.2	3.5	3.5	4.1	5.3	5.6	5.8	5.9	6.2	6.0	4.9	4.0	58.0	61 5	94
Illinois, Kentucky and Indiana	.5	.6	.6	.5	.7	.8	.8	.8	.8	.8	.6	.5	8.0	8.4	95
Oklahoma	29.6	31.6	31.8	31 3	32.8	31.1	31.5	31.4	28.9	31.5	30.5	28.7	370.7	348 3	106
Oklahoma City	7.8	8.3	8.6	8.3	9.1	9.1	9.6	9 0	8 6	9.3	9.5	8.2	105.4	73 4	144
Osage County	3.4	3 4	3.4	3.6	3.8	3.5	3.3	3.7	3.5	3.8	3.4	3.5	42.3	43 9	96
Seminole	7.8	8.9	9.0	8.8	8.6	7.7	7.7	7.7	6.8	7.6	7 2	6 7	94.5	98.9	96
Rest of State	10.6	11 0	10.8	10.6	11.3	10 8	10.9	11.0	10.0	10.8	10.4	10.3	128.5	132.0	97
Kansas	1.7	1.6	1.6	1.7	2.0	2.2	2.1	2 4	2 3	2.2	2.3	2.3	24.2	22.9	106
Texas	29.2	29.8	29.8	29.0	32 1	32.7	34.4	35.2	33.0	36.3	35.8	37.0	394.3	343.8	115
East Texas	1 8	1.9	1.9	1.7	2.0	1.9	2.1	2.3	2.5	2.0	2 5	2 3	26.5	.....	...
North Texas	1.5	1.5	1.5	1.6	1.8	1 7	1.9	1.9	1.7	1.9	1.8	1.7	20.5	22.4	91
Panhandle	14.2	14.5	14.3	14.2	16.6	7.8	18.5	19 1	17 9	20.5	20.0	20.0	207.6	165.3	125
West Central	7.1	7.3	7.5	7 1	7 1	7.1	7.6	7.7	6.9	7.5	7.4	7.3	87.6	82 7	106
Rest of State	4.6	4.6	4.6	4.4	4.6	4.2	4.3	4.2	4.0	3.9	4.0	4 7	52.1	*73.4	....
Louisiana	3.0	3.1	3.0	2.9	3.1	3 1	3.3	3.5	3.5	3.5	3.5	3.2	38.7	41.2	94
Arkansas	1.3	1 2	1.3	1.2	1.2	1.1	1.2	1 1	1 0	1.1	1.1	1.1	13.9	17.2	81
Rocky Mountain	4.5	4.5	4.5	4.7	4.9	5.3	4.7	4.7	4.6	4.8	4.9	4.7	56.8	60 2	94
California	39.1	40.4	42.5	41.8	43.1	41.2	42.4	42.0	37.1	40.6	39 4	40 7	490.3	505 4	97
Huntington Beach	1 8	2.2	2.8	2.5	2.8	3.2	3.0	2.9	2.7	3.1	3.0	3.3	33.3	17 7	188
Kettleman Hills	9 2	8 7	9.9	10.9	12.6	12.6	13 6	13 6	11.6	11.5	11.1	10.9	136.2	129 9	105
Long Beach	7.1	7.6	7.6	6.7	5.7	6.0	5.9	5.8	5.4	6.4	6.4	6.7	77.3	92 4	84
Santa Fe Springs	7.2	7.4	7.2	6.8	6.3	5.5	5.6	5.5	4.8	5.3	5 1	5 5	73.2	90 2	80
Ventura Avenue	2.8	2 8	3.0	3.2	3.4	3.5	3.6	3.8	3.4	4.0	3.4	3.6	40.5	38 3	106
Rest of State	11 0	11 7	12.0	11.7	12.3	10.4	10 7	10.4	9.2	10.3	10.4	10.7	130.8	136 3	96
Total	112.1	116.3	118.6	117.2	125.2	123.1	126.2	127.0	117.4	126.8	122.4	122.1	1,454.9	1,408 8	103
Daily average	3 74	3.75	3.83	3.91	4.04	4.10	4.07	4.10	4.19	4.09	4.10	3.94	3.99	3.84	....
Stocks at end of period	36 7	39.9	35.6	27.8	24,0	25.8	41.7	41.7	41.1	42.9	53.6	65.7	39.5	27.8	145

*Includes East Texas.

NEWS FOR SALES DEPARTMENTS

Canadian Government to Study Gasoline Monopoly

OTTAWA, Canada, July 28.—At the conference of Dominion and provincial government representatives scheduled to open here on July 30, a plan for government supervision and control of gasoline marketing throughout Canada will be presented for discussion.

The plan has recently been studied by the federal government, and will, it is understood, be placed before the provincial delegates without federal recommendation. The provinces will be invited to study the plan and to acquaint the federal government later with their views.

Details of the project have not been made public, but it is understood the major oil companies are proposing that the federal and provincial governments unite to control the distribution and sale of gasoline. This would be done by restricting the agencies of sale almost entirely to the major companies, with business allotted on a quota basis. The basis would, it is thought, be the existing division.

It is not known whether the project involves the elimination of independent dealers generally. Those who import gasoline would possibly be eliminated; but whether the major companies would retain their semi-independent dealers would be left to them.

In effect the plan would create a monopoly in the sale and distribution of gasoline so far as possible new competition is concerned. The companies are understood to be prepared to make substantial concessions to the various governments to safeguard the public interest. The retail price would be subject to government control; and the government also would have the right to compel the provision of sufficient facilties to serve consumers.

It is claimed the adoption of the plan would enable the companies to effect large economies in their operating costs. It is urged that there has been immense and needless duplication of service and filling stations and that in the larger cities there are three gasoline pumps in for every one actually required. The money investments made in sites and buildings has been a serious drain on the large companies. A first step under the proposed scheme would be the elimination of needless service stations.

The federal government has jurisdiction only over inter-provincial trade so that to make the scheme effective, the various provinces would have to co-operate.

Steps were taken some months ago by the Nova Scotia government to establish a sysetm of control of gasoline sales, under which duplication of filling stations was reduced and marked economies effected, these economies being passed in part to consumers in reduced prices. Similar measures have been taken by the New Brunswick government. In the other provinces no effort has been made to control gasoline retailing beyond the imposition of the gasoline tax and safety regulations with reference to the location and equipment of filling stations. So far, the attitude of the provinces is not known, except that the new government of Ontario will likely oppose the proposition.

NEW YORK USES ASPHALT

Secondary roads of New York State are being retreated with a new low-cost surface, according to the annual report to the New York Department of Public Works. This surface, which Highway Commissioner Arthur W. Brandt describes as "popular and economical," is composed of 3 to 4 inches of bituminous top laid over the dirt or gravel base already existing. Bituminous treading is also now being used on the new gravel roads being constructed.

During the past two years the New York State Highway Commission has retreaded 752 miles of secondary highway. The new gravel roads being built are costing $12,000 to $15,000 a mile for a 20-foot width, with an additional cost of $5,000 per mile for the bituminous surface.

"If this popular and economical type of resurfacing can be continued a few more years," the highway commissioner's report states, "all of our secondary roads will be placed in first class condition."

BOARD LIFTS CODE RULE

Due to the present labor difficulties on the Pacific Coast, and the consequent shortage of gasoline supplies reaching the consumer, the Petroleum Administrative Board recently lifted the rule concerning minimum deliveries. Under the rule, no deliveries under 100 gallons were subject to the discount provided by the board. As an emergency measure only the discount was declared applicable to any delivery of gasoline no matter how small.

Motorist May Be Advised of Weather Conditions

Intermediate wave radio receivers at filling stations and other points along highways to obtain weather information for motorists were suggested today by the Bureau of Air Commerce. Every hour from the 68 airways broadcast stations scattered throughout the United States along the Federal airways system weather reports are sent out on the air to assist flyers, and small receiving sets with a range of from 200 to 400 kilocycles could make this information available to motorists.

This service, if organized, could be made available to the transient motorist in the form of small bulletin boards to be placed in conspicuous places in service stations, bus stations, and local automobile clubs and associations on heavily traveled highways where an attendant could post the weather broadcast as soon as they were sent out on the air. This would be of particular importance in the more rugged and mountainous sections of the country, where a fog may mean delay, a heavy rain a washout, and a snow an impassable section of roadway. Using these proposed bulletins the motorist may take another route and avoid the possibility of these delays.

Automobile test tracks and automobile clubs have already found this means of determining the weather very valuable, but this service has not yet been placed at the convenience of the casual motorist and cross-country driver. Just as the airplane pilot depends on the weather reports to guide him through the skies, so will the automobilist depend on them in his selection of routes and the length of his day's travel.

It has been previously suggested by the Bureau of Air Commerce that the automobiles themselves carry these receivers for the reception of this weather information. The service that would be offered by filling stations and other points where the motorist is likely to stop would include cars not equipped with radios.

Develop New Spark Plugs to Meet Engine Demands

Spark plugs with a longer life and greater ability to handle heat are being developed in experiments now being carried on by leading manufacturers, according to a report of studies in this field by F. R. Speed of the Ethyl Gasoline Corp.

Improved electrical characteristics, avoiding losses of power and acceleration, are another factor in this advance. Increased specific output and wider range of operation demanded by modern engines has made it more difficult for the spark plug to ignite the mixture because greater gas pressure at the spark gap has increased the electrical resistance at that point. Therefore, more electrical pressure is required to make the spark jump the gap. There is also an increased tendency for the electric current to short circuit around the spark gap.

Recently, a number of improvements were made in the electrical system, providing better high tension wires to avoid electrical losses. However, it was found that the spark plug insulators under certain conditions of operation deteriorated to such an extent that noticeable losses of power and acceleration were noticed. As a result greatly improved insulating materials are being experimented with by the more important spark plug manufacturers and it is anticipated that within a few months spark plugs of several makes will be available using insulators with greatly improved electrical and thermal properties.

CODE ON STATION COLORS

According to a recent modification of the code of fair competition, concerning the changing of suppliers of gasoline for service stations, the following proviso was stated:

"Any present supplier may paint out his own identifying color with battleship gray the same as a new supplier is privileged, provided that a neutral color may not be painted over by either a new or an old supplier. For the purpose of this rule, battleship gray is designated as the only neutral color."

OIL CODE IN PUERTO RICO

Recommendation of Marketing Committee appointments recently marked the extension of the Oil Administration into Puerto Rico. The committee, composed of representatives of the oil industry, was nominated by the supplying companies and retail dealers.

C. G. Sheffield » » »

THE several thousand bulk and service stations which now constitute the domestic sales operations of the Standard of New Jersey and its affiliates are under the direct supervision of C. G. Sheffield, vice president of the Standard Oil Company of New Jersey (Delaware corporation). The principal companies included in this group as it was unified last year are the Standard Oil Company of New Jersey, retailing in New Jersey, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, and South Carolina; Colonial Beacon Oil Company, selling in New England and New York State; Standard Oil Company of Pennsylvania in Pennsylvania, and Standard Oil Company of Louisiana, with station facilities in Arkansas, Louisiana and Tennessee. Over the past year, under Mr. Sheffield's direction, the operations of the retail stations of these companies have been largely standardized as to trade-names, service and products. In addition to his general duties with these companies he is president of the Standard of Pennsylvania.

Mr. Sheffield's experience in the marketing end of the oil business extends back to 1900 when he started selling lubricating oils on the Pacific Coast. Later he inaugurated tank wagon service in the State of Washington and instigated other departures in petroleum merchandising methods. His efforts were successful and through a series of promotions he became general sales manager of Union Oil Company.

His work attracted the attention of the Fuel Administration during the war and he was called to Washington to accept the position of director of the distribution of oil products. He made an outstanding success of this job and attracted the attention of the late A. C. Bedford, chairman of the board of the Standard Oil Company (New Jersey) and chairman of the National Petroleum War Service Committee. In 1919 he was asked to head the newly created fuel oil department of the New Jersey Standard which he accepted. Since that time he has held various positions in the marketing departments of the Standard company and its subsidiary units.

Late Fields

KANSAS

Atlantic Oil Producing Co.'s No. 1, C SE NW Section 36-18-11w, Barton County, had Siliceous lime at 3,287-3,315 feet, with water at the bottom. It was plugged back to 3,312 feet. Oil rose in the hole 1,000 feet in 10 hours, but there was a little water and the hole will be plugged back another foot and a test made.

Slick estate and others' No. 1, SE cor. Section 17-20-10w, Rice County, had Siliceous lime at 3,045 feet and showing of oil at 3,077-80 feet and the crew was underreaming 6-inch pipe.

Slick estate and others' No. 1, C SW SW NE Section 25-22-9, Greenwood County, had Bartlesville sand at 2,427-51 feet, and flowed 140 bbls. of oil naturally, and 500,000 feet of gas through 16 feet of cavings. The crew was cleaning out.

Lario Oil & Gas Co.'s wildcat in Harper County, C NW Section 32-31-11w, was at a total depth of 4,385 feet. It has had showings of oil, and at 4,385 feet it showed from 500,000 to 1,000,000 feet of dry gas.

Mid-Kansas Oil & Gas Co.'s No. 1, C NW Section 10-18-16w, Rush County, flowed 142 bbls. of oil in 24 hours and made 11,000,000 feet of gas from Siliceous lime at 3,523-31 feet.

OKLAHOMA

The Olympic Oil Co.'s No. 1, C SE NW NW Section 12-9-8, Hughes County, Oklahoma, produced 799 bbls. in 41 hours producing from Cromwell sand at 3,432-78 feet. The oil began to cut about 4 per cent towards the last of the test.

A dispatch from Binger, Okla., says preparations were being made to resume drilling at Denver Producing & Refining Co.'s No. 1 A-Dah-Noe in Section 34-10-10w, Caddo County, total depth 11,230 feet. It was opened Sunday and flowed 200 bbls. in 24 hours from sand at 9,900-10,000 feet.

A.I.M.E. TRANSACTIONS

Petroleum Development and Technology, 1934, the transactions of the petroleum division of the American Institute of Mining Engineers is just off the press. This book is an innovation because a large part of its 465 pages is devoted to tabulated reports of a uniform type covering the principal pools and oil fields in most of the producing states in this country and also several of the foreign countries. This work has been carried on under the direction of Frank A. Herald, vice chairman, production division, and he has been assisted by members in the various states.

In addition the book contains a number of important papers upon production engineering and engineering research problems, petroleum economics and stabilization. The usual chapter devoted to a review of refining is included.

Copies, price $5 to nonmembers, can be secured from the A.I.M.E., 29 West Thirty-ninth Street, New York City.

GEOLOGIC STRUCTURES

"Geologic Structures," by Bailey Willis and Robin Willis, of Stanford University, Stanford, Calif., is now in its third edition in which the statement of pertinent mechanical principles precedes description, and description of each type of structure, such as folds and faults, precedes the analysis of the stresses and strains involved in the particular change of form. In this way the reader having mastered the mechanical principles will be in position to pursue the analysis of any structure in terms of stress and strain and interpret observations made in the field.

The book is published by McGraw-Hill Co., Inc., New York City.

MAGNETIC STORM

Tucson, Ariz., observatory for the U. S. Coast and Geodetic Survey report a severe magnetic storm started at 9 p.m. (C.S.T.) on July 30 and ended at 8 a.m. (C.S.T.) July 31. Its telegrams reads:

"Storm began thirtieth. Three. Severe."

"Storm ended thirty-first. Fourteen."

Suggests Moving of Drake Monument and Grave to Drake Memorial Park

The suggestion has been made and is being given consideration that the Drake monument in Woodlawn Cemetery, Titusville, Pa., and the grave of Colonel Drake, be moved to Drake Well Memorial Park, between Titusville and Oil City.

The idea was put forth in a letter to the Titusville Herald by Mrs. Emma Henne Wellner, which was run as an editorial. In her letter Mrs. Wellner says:

"Where could be a more suitable place for Drake's grave than on the spot where he dug into God's soil and gave light to the world? Would Mt. Vernon be so impressive if George's and Martha's tombs were not there? * * * Have not the graves of great men, warriors, scientists, discoverers been moved again and again until at last a proper setting was secured?"

The Drake monument, which cost $60,000, was the gift of Henry H. Rogers, but the donor's name was not made public until after his death.

It is a large and nobly designed architectural work, built of granite in crescent shape. In the center of the monument is a figure in bronze of an ancient stone driller, one hand grasping his drill and the other his hammer, the right arm upraised ready to strike steel against steel.

The Drake well is surrounded by Drake Well Memorial Park, the gift of the State of Pennsylvania. The park contains the Drake Museum, and a small monument marking the location of the well, but built about 15 or 20 feet from the top of the well head.

The suggestion that the monument in Woodlawn and the Drake grave would have a more appropriate setting if they were close to the site of Drake's labors has met with considerable support.

Suspension Bridge Has Novel Structural Features

(Continued from Page 8)

way a stairway is provided but neither the walkway nor stair are attached to the tower.

All parts such as eye-bars, suspender rods, cables and fittings are galvanized and the whole bridge and the pipes are painted with aluminum paint.

The bridge is designed to withstand a wind load that might be created by a 75-mile wind blowing directly up or down stream without undue deflection in the structure.

The reason for selecting the 4-foot radius cable saddles was to minimize any bending stresses in the cable at this point of maximum direct stresses in the cables and in addition to minimize any distortion of the cable section by avoiding flattening the cables in the groove in the saddles and also to provide a gradual curvature to permit the cable to fit into the groove of the saddles entirely through relative displacement of the wires, rather than any yielding of the metal.

As the pipe lines will be filled with oil practically all the time it is assumed that the change in temperature in the pipe will be slight because the temperature of the oil will not vary over 50 degrees from extreme hot to cold weather. This temperature change should not cause the pipes to expand or contract as much as the suspension cables and the only condition under which the pipe might have greater expansion would be when the pipe lines were empty for some time.

LOUISIANA-ARKANSAS REPORT

SHREVEPORT, La., July 30.—Estimated daily gross production of all fields for week ending July 13:

North Louisiana

Caddo, light	4,665
Caddo, heavy	1,590
Converse	1,800
Cotton Valley	540
DeSoto and Red River	1,485
Elm Grove	390
Haynesville	2,680
Holly	180
Homer	2,640
Pleasant Hill	205
Sarepta-Carterville	670
Urania	3,100
Zwolle	3,610
Total	24,555

South Arkansas

Champagnolle	1,325
El Dorado	2,425
Lisbon	370
Miller County	1,920
Nevada	910
Smackover, light	2,420
Smackover, heavy	19,510
Stephens	610
Urbana	2,375
Total	32,065

The Oil Man's Calendar

August

24-27—Titusville, Pa., Drake Well Memorial Celebration.

September

9—Wernersville, Pa., American Trade Association executives.

10-14—Cleveland, Ohio, American Chemical Society.

11-12—Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel (dates tentative).

12-14—Atlantic City, N. J., North American Gasoline Tax Conference, Claridge Hotel.

19-21—Atlantic City, N. J., National Petroleum Association.

26-27—Columbus, Ohio, Ohio Petroleum Marketers Association, Deshler-Wallick Hotel.

October

1-5—Cleveland, Ohio, National Safety Council, Cleveland, Statler, Carter and Hollenden Hotels.

9—Michigan Independent Petroleum Distributors Association, place to be named later.

12-13—American Institute of Mining Engineers, Petroleum Division, fall meeting, Tulsa, Mayo Hotel.

16-18—Big Four State Jobbers Association Convention, Kansas City, Mo.

29—American Gas Association Convention and Exhibition, Atlantic City, N. J.

November

5-9—Cleveland, Ohio, Automotive Service Industries Show, Cleveland Public Auditorium.

Los Angeles, Calif., American Association of Petroleum Geologists, Pacific section.

12-15—Dallas, Tex., annual meeting, A.P.I.

December

3-8—New York, National Exposition of Power and Mechanical Engineering, Grand Central Palace.

January

7—New York, Society of Automotive Engineers, annual dinner.

Michigan Drilling Code Committee Submits Plan

MUSKEGON, Mich., July 28.—The Michigan drilling code committee has submitted a proposed schedule of wages, drilling costs and other drilling practices to Washington for final approval, it was reported here by W. A. Hower, field superintendent for the Muskegon Oil Corp. and affiliated companies.

The code includes recognition of the right of collective bargaining and provides that drilling contracts shall be submitted to Henry G. Hunt of Mount Pleasant, executive secretary of the Oil & Gas Association of Michigan. Contractors have the right to appeal to the code committee or to carry the appeal to Washington.

Minimum drilling prices were set at $1.75 a foot for single wells or $1.55 a foot for 6 wells or more in Chippewa, Greendale, Jasper and Porter Townships, of Isabella and Midland Counties with rig, pipe and fuel furnished. Vernon, Leaton and Denver Township, Isabella County, rates were set at $2 a foot for single wells and $1.85 for 6 or more. Austin, Colfax and Hinton Township, Mecosta County rates were left undetermined.

The Ogemaw County Traverse rates are $1.75 and $1.60 with Dundee rates set at $2.50 or $2.35. Broomfield Township, Isabella County, rate to Michigan gas sand is $4.00 a foot, to Dundee oil sands, $2.50 a foot. The rates for wildcats 5 miles or more from proved territory are not less than 10 cents a foot higher than the above, and for wildcats at least 25 miles from production, not less than 25 cents a foot higher.

On turnkey jobs the minimum price shall be 10 per cent above cost to the following depths: Greendale Township, 3,550; Chippewa, 3,575; Jasper, 3,450; Porter, 3,425; Vernon, 3,800; Leaton 3,700; Denver, 3,650; Austin, 1,300; Colfax, 1,400; Hinton, 1,400; Colfax (Dundee), 3,600; Home Traverse, 3,100; Lapeer, 1,500; Ogemaw-Traverse, 1,800; Ogemaw-Dundee, 2,800, and Broomfield-Michigan gas, 1,400.

"Where more than 500 feet of drive pipe is required the rate shall be not less than $4.50 a foot from the surface to the Marshall. In dry holes 66 per cent of the cost may be allowed for salvaging the materials.

The full schedule of wages specified under the code shall be used except in wells less than 2,500 feet deep and more than 1,000 feet allowing a 15 per cent reduction and in wells less than 1,000 feet deep, a 25 per cent reduction under the code scale.

Practices listed as unfair include rebating, under-bidding, accepting more than a specified amount of payment in oil produced, paying employes except by cash or check and drilling for less than cost.

The following fees will be charged for approval by the secretary of the association: Wells less than 2,000 feet, $7.50; 2,000 to 3,000 feet, $10, and more than 3,000 feet, $12.50, the fees to be used to pay expenses of the drilling contractors' division of the association.

GEOLOGY AT A GLANCE

"Geologic History at a Glance" is the title of a brochure published by Stanford University Press and compiled by L. W. Richards and G. L. Richards, Jr., which gives the fundamental concept of stratification of the earth's rocks and presents the major points of geologic history.

The compilers have assembled large photographs of parts of the Grand Canyon of the Colorado River in Arizona and aerial views of the Kettleman and Kreyenhagen Hills of California, with one or two other pictures of typical structures, in such a way as to present to the reader the geological age column in a comprehensive manner. Much additional pertinent data are included in the diagrams.

Two types of the edition are available, the educational edition sells for 80 cents and a trade edition for $1.25.

NEWS FOR PETROLEUM REFINERS

Operations Resumed in Shell Plant at Chicago

Employes of Shell Petroleum Corp.'s refinery at East Chicago have returned to their work and conditions in the plant are back to normal. A walkout in the Empire Oil & Refining Co.'s plant was voted down by its men last Thursday and pending the working out of a definite agreement there conditions remain normal. The Sinclair Refining Co. had already signed an agreement with its men working in the company's Chicago refinery. The Standard Oil Co. of Indiana has operated its Chicago plant under an employes-seniority plan for years which has brought the relationship of the men and the executives of the company into close harmony and there has been no effort made to interfere.

In settlement of the Shell walkout Alexander Fraser, president of the company made the following announcement:

The walkout of employes at the East Chicago (Indiana) refinery of Shell Petroleum Corp. was brought to a rapid and peaceful conclusion at 5:30 a. m. Monday morning, following a three-day conference held in St. Louis between international officers of the union employes organization and executives of the oil company. The walkout was ordered by the local employes committee on Wednesday, July 25. The series of conferences started on Friday morning, following the arrival of President Harvey C. Fremming of the International Association of Oil Field, Gas Well & Refinery Workers of America.

Mr. Fremming issued the following statement: "I am happy to announce the return to work of our men in Shell Petroleum Corp.'s East Chicago refinery who walked out last Wednesday, and the resumption of normal operation within the plant. This rapid action, effected without the need for intervention of outside agencies, was made possible because of the mutual sincerity with which our organization and the Shell executives have labored to establish a sound basis of employer-employe relationship, just and fair to all concerned. Our conference of yesterday soon developed that the underlying cause of the walkout was a misunderstanding which arose in the minds of the employes as to the intent and purport of proposals offered by the company during recent meetings for collective bargaining held between representatives of employes and management.

"For many years the Shell operating organizations have enjoyed harmonious employer-employe relationships. The arrangement in effect in the Pacific Coast to affiliate Shell Oil Co., has, since 1919 and prior to the N.I.R.A., served as a guide in that area."

In commenting upon the conclusion of the negotiations, Alexander Fraser, president of Shell Petroleum Corp., said: "On behalf of the company, I am pleased to announce that our employes have returned to work and that our negotiations with their representatives, headed by Harvey C. Fremming, have been brought to a successful conclusion. It is unfortunate that the men elected to walk out on this occasion, and thus interrupted an outstanding record of satisfactory employe relations over a long term of years. The fact that an agreement has been reached direct with the employes through their representatives, without the aid of any outside agency, is a tribute to the patience and conciliatory attitude of both sides.

Oil Yields 70 Per Cent of the Special Federal Taxes Paid on Automobiles

Taxes upon gasoline and lubricating oil supplied more than 70 per cent of the Federal Government's income from special motor tax sources in the fiscal year ending June 30 last, according to the latest report of the Bureau of Internal Revenue.

Federal gasoline taxes cost consumers $202,575,034 in the fiscal year as compared with $124,929,412 in the prior fiscal year. Lubricating oil taxes totaled $25,254,987 against $16,232,925.

Actually, consumers of the petroleum industry were taxed $238,209,391, or all except $70,901,045 of the total $309,110,436 collected, for the tax upon pipe line transportation increased the petroleum taxes by $10,379,370.

Federal gasoline taxes were about six times as expensive as Federal taxes upon motor vehicles. Federal taxes upon lubricating oil were nearly five times as heavy as Federal levies upon motor parts and accessories.

During the first half of the fiscal year the Federal gasoline tax was levied at the rate of 1½ cents per gallon. On January 1, 1934, it was reduced to 1 cent per gallon, the occasion representing only the fourth time a gasoline tax rate has been reduced since the levy first was imposed by Oregon in 1919.

While comparable reports of state gasoline tax collections are not available for the period of the Federal Government's fiscal year, indications are that state revenues amounted at least to $500,000,000. It is probable also that counties and municipalities collected at least $5,000,000, which would lift the total cost of gasoline taxes to the public during this period to more than $707,000,000. Records of the American Petroleum Industries Committee indicate that this is the largest amount ever collected in gasoline taxes in any 12 months in history. During the first year of collections, 1919, this tax cost the public only about $1,000,000, and it has, therefore, increased about 700 times in 15 years, probably something of a record in tax affairs.

Following is a table showing Federal tax collections from motor sources during the fiscal years ended June 30, 1934, and June 30, 1933:

Source of revenue—	Amount collected— Fiscal year ending June 30, 1934	Fiscal year ending June 30, 1933	Per cent of increase
Lubricating oils	$25,254,987	$16,232,925	55.67
Gasoline	202,575,034	124,929,412	62.12
Tires and inner tubes*	27,630,145	14,980,085	84.35
Automobile trucks	5,048,436	1,654,040	205.70
Automobiles and motorcycles	32,526,762	12,573,922	158.23
Auto parts and accessories	5,695,712	3,597,276	58.13
Transportation of oil by pipe line	10,379,370	7,467,293	38.73
Total	$309,110,436	$181,434,953	70.47

*Tires and tubes not segregated for first half of fiscal year.

Oil Code Interpretation Given Labor Provisions

An interpretation of the labor provisions of the Oil Code, which permits wage and hour sections of other codes to apply if an employe devotes more of his time to work other than dealing with oil and oil products, was announced today by the Oil Administration. The interpretation is intended to apply to any business establishment which not only handles oil but also garage service, motor accessories, and the like.

Interpretation of Article V, Rule 2

"Where any merchant or vendor of petroleum products also engages in the sale of other products, such as motor vehicles, tires, dry goods, etc., for which a code of fair competition has been duly approved by the President, or in the rendering of services in connection with such products or in any other trade or industry, such as the garage industry, operating under a code of fair competition duly approved by the President, the following rules shall determine which code shall apply as regards:

"A—Hours, Wages and Conditions of Employment

(1) Employes working exclusively in a separate independent department shall be worked or permitted to work in accordance with the labor provisions of such approved code as shall be applicable to the particular trade or service of that department.

(2) Employes other than those specified in paragraph (1) above shall be governed by the provisions of that code which shall apply to the business from which the employer derives the largest part of his gross revenue.

"B—All Other Provisions

The approved code governing the sale of a particular product or service shall apply in all other respects to such sale."

ANSWER EMERGENCY CALL

A 3,000-mile aerial relay race against time, from Schenectady, N. Y. to the Standard Oil Co. of New Jersey's refinery at Aruba, took place recently when an 808-lb. shipment of electric-motor coils was rushed by plane from the General Electric Co.'s headquarters to the Lago Oil & Transport Co. The refinery, its motors crippled by flood, had been forced to shut down pending their arrival.

To meet the emergency, General Electrict produced the coils in three days' total time, although the work involved would ordinarily require from two-and a half to three weeks. As soon as production was completed, the coils were packed in compact cartons, each weighing less than 100 lbs. and specially designed for air shipment, and were flown by chartered plane to the Newark, N. J., airport.

There Standard Oil took over the shipment and placed it on an Eastern Air Lines' plane bound for Miami, Fla. Upon reaching the Miami airport, the cartons, like batons in a track relay event, were quickly transferred to Pan-American Airways for the journey across the Caribbean to Kingston, Jamaica, and thence to Barranquilla, Colombia. From that point the consignment was transshipped on a specially chartered plane to the island of Aruba.

May Build Four More Small Plants in Michigan Fields

MUSKEGON, Mich., July 30.—Plans for four new independent Michigan refineries are being considered. The Old Dutch Refining Co. of Muskegon is studying the possibility of erecting a 1,000-bbl. plant in the vicinity of the new Home Township, Montcalm County, Field. This is contingent upon getting a sufficient supply of crude there. Three wells have been completed having a potential of about 2,600 bbls. a day and a daily allowable of 600 bbls.

Max Bray is also considering moving a plant from Texas to the village of Wyman, Montcalm County. Maxwell and Ray Lewis and associates of Ovid, Mich., expect to build a small plant at Elsie, south of central Michigan producing fields, with E. G. Guy, formerly of the Old Dutch Refining Co. of Muskegon, and the Roosevelt refinery, Mount Pleasant, in charge of construction and operations.

A fourth project has been started outside of Detroit by Henry and I. E. Goodman, formerly of the Keystone Refining Co., Detroit.

Naph-Sol Refining Co., of Muskegon, has completed erection of a new 500-bbl. rerun still and plans to install another. Two 25,000-bbl. storage tanks recently were erected. The plant is now running about 2,500 bbls. of crude daily, mostly from central Michigan pools.

CITY SEEKS MORE TAX FUNDS

The Los Angeles City Council unanimously adopted a request recently to the Board of Supervisors for sufficient funds to maintain the streets of that city. The object of all gasoline tax collections was originally intended for the upkeep of highways and streets. Of $6,000,000 now available from gasoline taxes, only $725,000 is allotted to the city street maintenance department. This amount is said to be entirely inadequate. The council points out that San Francisco is receiving 55 per cent of the state gas and motor-vehicle tax income. The county and city of Los Angeles pay more than $9,000,000 of the state gasoline and motor-vehicle tax. As an outcome of this agitation an investigation has been ordered by the County Grand Jury. All of the money has not been accounted for, and auditors of the grand jury are now engaged in tracing every dollar. Much of the money has not been accounted for, and auditors of the grand jury are now engaged in tracing the alleged diversions.

INFRINGEMENT SUITS FILED

Four suits charging patent infringements were filed last week by the Universal Oil Products Co. The defendants are the Globe Refining Co., the Dicky Refining Co., the Kanotex Refining Co. and the Eldorado Refining Co., all of Kansas. The patents concerned deal with a cracking process.

BELL AND ALTITUDE MERGE

The Bell Oil & Gas Co. has absorbed the properties of the Altitude Petroleum Corp. under an arrangement whereby M. L. Freese and I. A. Anson of the Altitude become vice presidents of the expanded Bell organization.

The Bell Oil & Gas Co. will now have refineries at Grandfield, Okla.; Chanute, Kan., and Kansas City, Mo., and production in North Texas and the Panhandle of Northwest Texas.

The Bell will have sales offices at Chicago, Kansas City and maintain its offices at Minneapolis and Milwaukee.

from RESEARCH *to* REALITY

GOOD WILL BASED ON GOOD STEEL

THE idea of better refinery tubes is not new to the oil refining industry, but it has taken years of research, experimentation and development to make that idea a reality.

Timken pioneering in this work has resulted in the production of high-temperature alloy steels that have greatly improved refinery tube service — particularly in cracking furnaces — with a corresponding decrease in operating charges for delays and replacements.

You can now specify Timken Refinery Tubes for any branch of refinery operation with the assurance of getting the highest type of material so far developed for the purpose... in high temperature and pressure capacity; creep strength; and corrosion resistance.

THE TIMKEN STEEL AND TUBE CO., CANTON, OHIO

District Offices or Representation in the following cities:
Detroit Chicago New York Los Angeles Boston Philadelphia Houston Buffalo Rochester Syracuse Tulsa Cleveland Erie

World's Largest Producer of Electric Furnace Steel

TIMKEN ALLOY STEELS

ELECTRIC FURNACE AND OPEN HEARTH - ALL STANDARD AND SPECIAL ANALYSES

Chart Permits Direct Reading of Viscosity Index From Determinations at Any Temperatures

By K. M. WATSON
Universal Oil Products Co.

The effect of temperature upon the viscosity of petroleum fractions has reached a position of increasing prominence until it is frequently termed the most important property of lubricating oils. The value of a quantitative method for expressing the change of viscosity with temperature has led to the introduction of several variously defined "viscosity index" scales particularly adapted to the lubricating stock range. These scales were rather arbitrarily defined to suit the needs of a particular problem and considerable confusion is now arising as attempts are made to extend these relationships to stocks and conditions of measurement different from those on which the original definitions were based.

The viscosity index of Dean and Davis[2, 3], has been widely accepted and numerical values on this scale and their significance are now generally familiar. For this reason it seems undesirable to alter this basic scale unless considerable benefit will be produced to offset the resulting confusion of the change. However, several proposals have recently appeared in the literature advocating such a change and it is generally recognized as desirable that in some way the viscosity index concept should be made more broadly applicable.

Larson and Schwaderer[7] have pointed out that the Dean and Davis scale has the disadvantage of being nonuniform in that the sensitivity of the lower end of the scale is much greater than that of the high end. Also, it was pointed out that if the Dean and Davis formula is applied to data at temperatures different from the 100 and 210° F. standards used in the definition, the calculated viscosity index of a given oil will vary with the choice of temperatures. This variation results even though the viscosities of the oil plot as a straight line on the A.S.T.M. chart.

New Definition of Viscosity

Accordingly, Larson and Schwaderer proposed a new definition of viscosity index based on equi-angular divisions on a chart relating viscosity at 210° F. to that at 100 and 130° F. The "viscosity zone sectors" of Larson and Schwaderer correspond to the Dean and Davis index only at values of 0 and 100. Their method has the advantage of providing a more uniform scale and of permitting determinations at two different sets of temperatures.

Nevitt[8] and Clayden[5] have also proposed modifications of the viscosity index definition with the object of a broader applicability and a more fundamental basis.

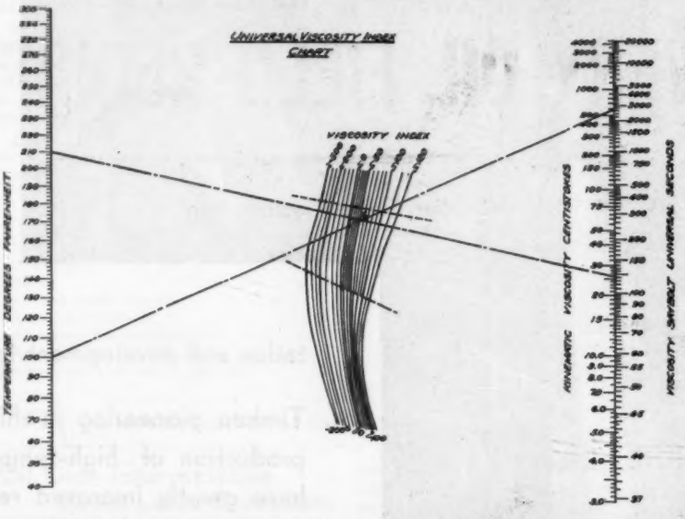
Docksey, Hands and Hayward[4] recently reviewed the suggestions cited above and concluded that since any definition of viscosity index will necessarily be arbitrary it is desirable to retain the familiar Dean and Davis scale as a basis and modify and extend it as required. They developed a series of four charts for use at two different sets of temperatures. These charts were derived by combining the A.S.T.M. chart with the Dean and Davis scale and empirically plotting charts to give the same viscosity index from measurements either at 100 and 200° F. or at 50 and 100° C. as would be obtained from the Dean and Davis formula at 100 and 210° F. The viscosities were expressed in centistokes for use in Europe.

All the methods discussed above have the disadvantages of yielding viscosity indexes directly only from data at certain arbitrarily specified temperatures and of being difficult to extend into ranges not covered by the original Dean and Davis series of standard oils.

Expand Dean and Davis Chart

The nomographic chart shown in Figure 1 was developed to afford a logical basis for extending the Dean and Davis scale to heavier and lighter stocks and to provide a convenient chart from which viscosity index can be read directly from any two viscosity measurements at any two temperatures within the range of the scales.

Basically this chart is merely a nomographic form of the A.S.T.M. viscosity chart. The temperature and viscosity scales were plotted directly from the equation tentatively adopted by the



A.S.T.M. Consideration was given to the modification in both the calibration of the Saybolt viscometer and the A.S.T.M. chart recently proposed by Albersheim, Konheim and Larson[1]. However, it seems desirable that the merit of these changes be studied further before incorporating them into other definitions.

It is a characteristic of this chart that any straight line on the conventional A.S.T.M. chart is represented by a single index point on the nomograph. For example, an oil having a Saybolt Universal viscosity of 120 seconds at 210° F. and 2,650 seconds at 100° F. is represented by point X. The viscosity of this oil at any other temperature may be estimated by passing a straight edge through point X, intercepting the viscosity scale at the viscosity corresponding to the intercept on the temperature scale. Locating an index point on the nomograph is exactly analogous to drawing a straight line on the A.S.T.M. chart.

Each curved line on the nomograph is the locus of index points corresponding to stocks of a constant viscosity index. The portions of these lines lying between the two heavy broken lines were plotted directly from the data and formula of Dean and Davis. The viscosity index of any stock can be estimated by interpolating between these lines after the index point is located. For example, the stock represented by point X has a viscosity index of approximately 55.

The lower portions of the viscosity index curves were extended on the basis of a series of viscosity measurements made on cut vacuum distilled from two stocks. One was a Mid-Continent crude, the heavier cuts of which showed viscosity index values of 75. The other was a residuum formed from cracking Mid-Continent gas oil. The viscosity indexes of the higher cuts from this stock were fairly constant at approximately —240.

For extension of the viscosity index curves it was assumed that the viscosity indexes of the lighter cuts from each stock are the same as those of the heavier cuts. The logic of this assumption is supported by the values of the boiling point-gravity characterization factor proposed by Watson and Nelson[9]. The cuts from the Mid-Continent stock all had characterization factors of approximately 11.9 while those from the cracked residuum varied from 10.2 for the heavy cuts to 10.3 for the lighter.

Use Saybolt Thermo Machine

The viscosity measurements on the lighter cuts were made with the Saybolt Thermo viscometer, using the calibration of Fortsch and Wilson[6] for converting to kinematic viscosities. Values obtained in this way on the heavier cuts agreed closely with those obtained with the Saybolt Universal viscometer, using the A.S.T.M. calibration.

There is a slight disagreement between the viscosity indexes given by Figure 1 and those of Dean and Davis stocks having viscosities between 40 and 45 seconds at 210° F. The curves from Dean and Davis did not join smoothly with the data on lighter stocks in this region. As a result, the viscosity indexes of oils in this range are slightly higher when read from the nomograph than when calculated from the Dean and Davis equation. The upper range for oils of viscosity greater than 160 seconds at 210° F. is merely a graphical extension of the data on lighter stocks.

The nomograph has the advantage of permitting viscosity index determinations from any two temperatures which is particularly advantageous when dealing with wide ranges of stocks and viscosities. It also has the advantage of presenting a true picture of the significance and accuracy of the viscosity index scale. The nonuniformity of the Dean and Davis scale is clearly shown by the spacing of the lines of constant viscosity index. For example, the distance between the 100 and 110 viscosity index lines is approximately 3.5 times that between the 0 and 10 lines. Viscosity indexes can be read from the chart with an accuracy proportional to the experimental accuracy of the determinations whereas use of the Dean and Davis formula indicates an accuracy in the lower range of the viscosity index scale which is entirely unwarranted by the experimental accuracy.

Figure 1 is not entirely satisfactory for the lighter stocks because of the deficiencies of the A.S.T.M. chart from which it was derived. In the low viscosity range of the chart many oils show considerable curvature. There seems to be a tendency for highly aromatic cracked stocks to give lines which are concave upward while paraffinic stocks are concave downward. Also, there are indications that the width of the boiling range of a cut influence the viscosity index.

It is suggested that a nomographic chart such as Figure 1 offers a logical means of fixing a universal definition of viscosity index. Improvements in this chart will result if the A.S.T.M. chart can be corrected in the lower range. If it is desired to change from the Dean and Davis scale a logical basis would be to adopt a scale giving uniform divisions between the viscosity index lines on the nomographic chart. More experimental work is also desirable for the extension of the standard series of high and low viscosity index oils into the heavier and lighter ranges.

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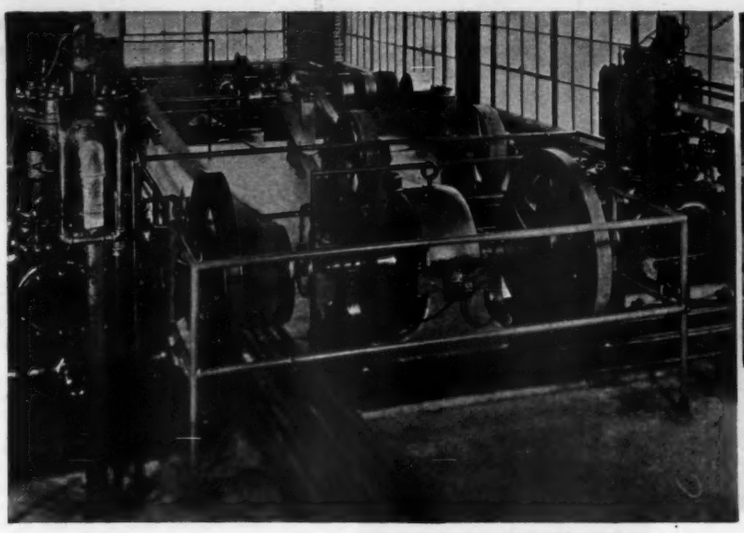
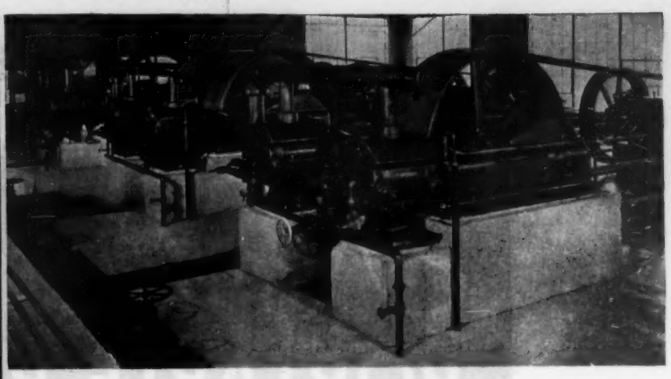
California Tax Receipts Break After Steady Gain

June gasoline tax collections in California showed the first decrease since March, totaling $3,448,947.38. This figure fell short of the June, 1933, mark by $269,624.94. The setback in June shows that the gasoline market is still subject to severe fluctuations.

A list of oil companies reporting sales of more than 1,000,000 gallons of gasoline for June follows:

Company—	Gallons actually sold	Net taxable gallonage
Associated	16,461,356	16,285,612
Caminol	2,011,054	2,004,674
Fourl, Chas. W.	1,108,187	1,118,083
General Pet.	10,929,752	10,052,333
Macmillan Pet.	2,544,425	2,499,242
Western Oil	1,972,694	1,984,150
Hancock Oil	2,976,467	2,860,874
Richfield Oil	10,605,140	9,383,533
Mohawk Pet.	1,192,082	1,182,588
Norwalk	1,789,768	733,921
Olympic Ref.	1,580,958	1,574,540
Petrol Corp.	1,295,910	1,256,181
Rio Grande	3,613,462	2,359,430
Sunset Pacific	3,847,791	811,717
Seaside Oil	4,568,651	1,198,306
Shell Oil	25,472,189	12,112,432
Standard Oil	51,653,702	35,315,337
St. Helens Pet.	1,007,217	990,330
Texas Co.	15,383,120	4,689,428
Triangle Oil	1,442,294	1,466,862
Union Oil	15,592,486	11,550,127
Wilshire Oil	4,375,331	4,365,959





Above—These twin cylinder horizontal gas compressors in the T. W. Phillips Gas and Oil Co. Butler, Pa. plant are Gulf lubricated.

Left—This Gas engine driven pump equipment, at the Phillips plant is kept in continuous, trouble-free service with Gulf lubricants. All other equipment at this plant is safeguarded with Gulf lubricants and engineering service.

A COMPLETE LINE OF QUALITY LUBRICANTS FOR EVERY OIL FIELD REQUIREMENT

TO assure low maintenance costs and dependable machine operation, many leading oil producers are standardizing on Gulf lubricants.

Gulf's wide range of quality oils and greases permits the use of the right, scientifically selected lubricants for each piece of mechanical equipment.

The use of improper lubricants, or improper application of the right lubricants, result in wear, interruptions in operation and costly repairs. A Gulf engineer, qualified by a thorough training and broad experience with equipment like yours, can help you improve the operation of your oil producing machinery through better lubrication.

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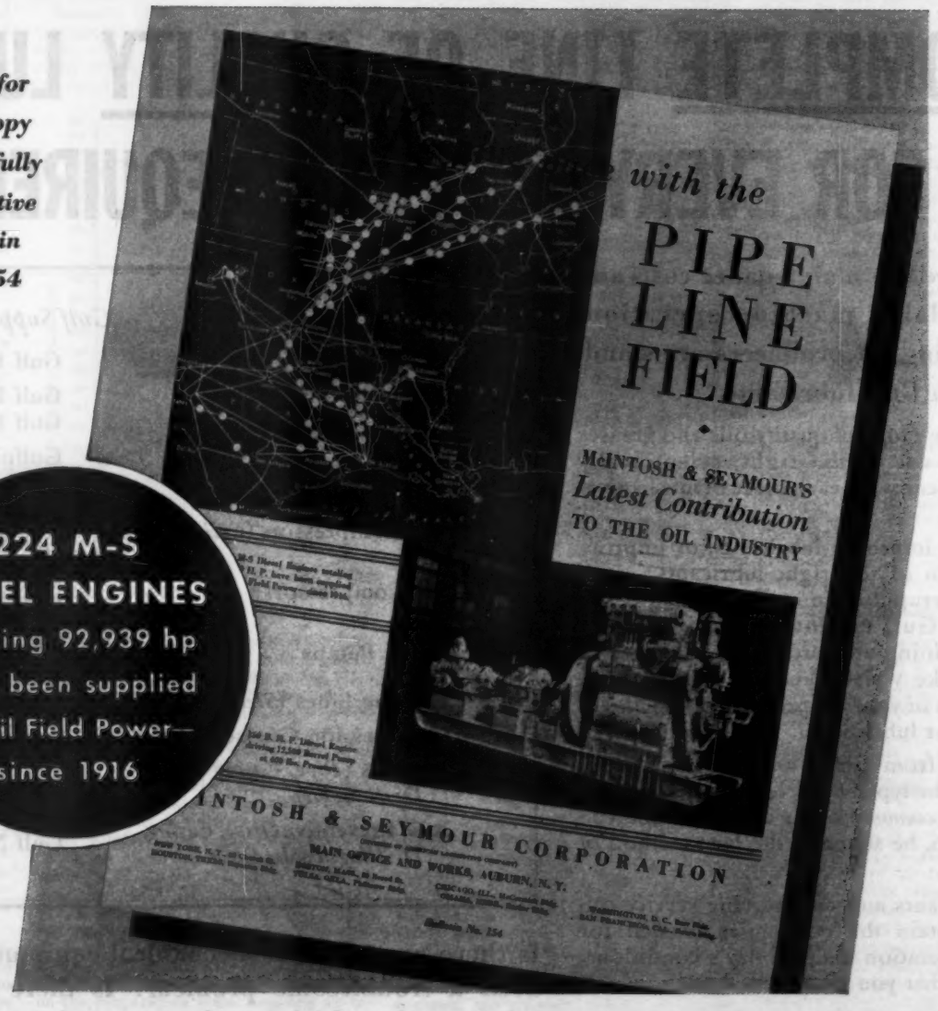

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MAIN OFFICE AND WORKS, AUBURN, N. Y.

First High Pressure Natural Gas Line in Austria Supplies City Owned Power Plant in Vienna

By LYON F. TERRY
Ralph E. Davis, Inc., Engineers, New York

The European Gas & Electric Co. has recently completed several natural gas wells in a new field surrounding the village of Oberlaa, just south of the city of Vienna, Austria. While continuing drilling operations to further develop the field, the company arranged for the delivery of natural gas for fuel purposes to the city owned electric power plant in Vienna; and proceeded with the building of a pipe line from the wells to the power plant and the conversion of the power plant to the use of gas. The writer was in charge of this construction.

The building of natural gas pipe lines has become a common occurrence here in America, but this was the first high pressure gas line in Austria, and was looked upon by Austrian engineers with considerable skepticism and possibly in the same way that the first natural gas pipe lines built in the United States must have been looked upon by their constructors. As a matter of interest, a section of one of the first natural gas lines in this country, which was laid to Rochester, N. Y., in 1870, is on exhibition at 70 Pine Street, New York City. The line was 12 inches in diameter, built of hollowed pine logs, and joined with bell and spigot joints reinforced with iron ferrules. It proved to be a failure, because it would not hold pressure, and $1,500,000 is reported to have been lost on this pioneer pipe line project.

Strict Supervision

To appreciate the conditions under which the construction of the Austrian pipe line was undertaken, the reader must understand that the Austrian government and the socialistic city of Vienna maintained a highly developed organization of bureaus and departments having full jurisdiction over all private enterprises. Consequently, when arrangements were being made for the building of this pipe line it was found necessary to submit plans and specifications to 15 separate and distinct departments, duly authorized to approve or reject proposed plans and decide questions of design, location and safety. These included such official organizations as the city of Vienna department of public safety, the department of streets and traffic, the department of grounds and future planning, the departments of underground structures and above ground structures, the city owned gas and electric works, the police and fire departments, the inspectors of industrial plants, the federal government departments of commerce and traffic, public finance (handling duties and taxes), the telegraph, telephone and railroad organizations (all government owned) and the national bureau of mines (having jurisdiction over construction originating from mining operations). The departments are composed of public office holders, many of whom are well educated and highly technical engineers. While these men were fully aware that high pressure gas lines hvae been in successful operation in America for years—they believed in starting from basic principles and applying their own ideas of design and procedure—regardless of what has become standard practice in America after the many years of natural gas line experience since 1870.

The pipe line built by the European Gas & Electric Co. consists of 8⅝-inch O.D. and 12¾-inch O.D. pipe, Dresser coupled and is approximately 6 kilometers long. The pipe is of seamless steel, in lengths of 30 to 45 feet and was wrapped at the mills with a heavy layer of jute over asphalt, finished with an outside coat of asphalt. It was furnished by the Mannesmann pipe works at Komotau, Czechoslovakia, under American Petroleum Institute specifications for Grade A seamless pipe.

Allowable Pressure

On the subject of allowable gas pressure, the company presented to the government engineers full description of gas pipe line operations in America, where 300 and 400 pounds per square inch internal pressures are considered good practime, and included details of the world-famous Chicago line designed for 600 pounds or higher. But the Austrians took as their standard the German coke-oven gas pipe lines from the Ruhr valley to Hanover, Hamburg and Essen. These German lines have been constructed in the last few years and are built for the so-called high pressure of 30 to 40 pounds per square inch, are tested to 150 pounds, but are being operated at only 15 to 25 pounds per square inch. Furthermore, the city-owned gas company operates what are termed "high pressure" distribution mains of welded steel pipe at maximum pressures of 2 to 3 pounds per square inch; and no amount of persuation could convince the city that such high pressures as are used in American practice would be safe.

Pipe ready for lowering

It was finally determined that for this first high pressure gas line in Austria, a pressure of 142 pounds per square inch would be allowed in the country, and 28 pounds through the thinly populated area in the outskirts of the city through which the line was laid to the power plant; and recording gauges were required to be installed on the line, leaving no doubt of the government's intention to keep operations under observation. The part of the line where 28 pounds was set as the allowable maximum is 12¾-inch seamless pipe, 0.236 inch thick, buried with a minimum of 4 feet of cover, tamped by machine. The pipe has a theoretical bursting pressure of 1,800 pounds per square inch, was tested to 570 pounds at the shops and 150 pounds in the ground, so it may easily be seen that they were taking every precaution to insure safety.

Smell Pipes Compulsory

The couplings to be used on the line was a matter of concern to the government departments, especially since they are not made in Austria and had to be imported from England or America. Would they hold pressure, would the rubber deteriorate, would they leak, and what were they anyway? Bids for couplings were invited from local manufacturing concerns, and it was found that they could not compete with American mass production prices. The American couplings were finally approved by the government engineers, but not without warning that the company would be held responsible for their successful performance. And to insure safety to the public it was required that where the pipe line was laid under street pavement or near buildings, each coupling must have a "Schnuffelrohr" or smell pipe, a device for making quick tests for leakage. This is standard practice for the long distance gas lines in Germany. The device consists of a piece of sheet iron, cut and bent to form a hood, set immediately over the coupling, so as to catch any gas that may escape. The top of the hood is connected by a three-quarter inch pipe to a cast iron street box, set in the pavement or surface of the ground above. Every day an inspector must lift the lid of each street box and smell down the "Schnuffelrohr."

The obtaining of right-of-way was another problem. In the European countries, where farms have been passed down from father to son for centuries, landholdings have become split up into small narrow strips, resembling town lot developments. Some of the farms crossed by the pipe line were no more than 13 feet wide and one gas well site required dealing with the owners of three separate adjoining farms. The customary procedure in Austria for the condemnation of land for right of way purposes is cumbersome and slow and to expedite matters the European Gas & Electric Co. secured a governmental decree of "begunstigte Bau" or "right of a preferred undertaking." It was thus enabled to come within the classification of a constructor of an undertaking for the good of the state, under an old 1914 wartime law designed to avoid red tape. This permitted the entering upon lands and the beginning of construction with or without the consent of the landowners, subject to subsequent determination and settlement of damages.

Extreme Precautions

When the plans and specifications for the line were nearing completion the next step to be taken by the well regulated Austrian government was to hold a "commission." Representatives were invited from the various city and government departments, as well as all other interested parties, such as landowners whose lands were crossed by the line, their lawyers, and, incidentally, representatives of the company. The representatives assembled early in the day at the Oberlaa "Rathaus" (townhall) where a general discussion took place and all objections were registered. Then the entire commission, numbering 50 to 60 men walked the proposed right of way, discussing and attempting to settle the objections raised. Never letting anything interfere with the Austrian custom of five meals a day, by 11 a.m. the familiar "semmel and wurst" appeared out of brief case and pocket and the entire commission munched as they proceeded on their tour of inspection. Three such "commissions" were held before the pipe line was completed.

After much detailed questioning of design, construction proceeded with the forewarning that final tests must show a minimum of leakage. The company proposed to guarantee the U. S. Bureau of Mines standard for leakage, by which the equivalent of 200,000 feet per year in a 3-inch line at 100 pounds pressure, is accepted as indicating a reasonably tight rubber coupling gas line. But the officials referred to the German textbooks and decided upon a maximum allowable leakage of some 25,000 feet on the above basis. The first test was made with compressed air at 90 pounds pressure. We proposed to use a large spring gauge graduated to 1½ pounds per square inch for testing, but they would not accept the accuracy of such a gauge and requested that a mercury column be used. Consequently, a 16-foot mercury tube was erected for measuring the drop in pressure in the pipe line, and readings were corrected for variations of temperature and barometric pressure.

Readings were made at 10 a.m. one

(Continued on Page 42)

Pulling pipe through girders of highway bridge over East Railway

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Bethlehem Products

ALLOY STEELS
for refinery applications

In refinery work, as elsewhere, alloy steels are more and more being used for parts that must have unusual endurance, strength, or other properties. Bethlehem is being continually called upon to work out special analyses for severe tasks. Supertemp (see below) is only one of numerous Bethlehem developments in this direction that can be cited.

If you have any kind of problem that calls for something exceptional in steel, call in a Bethlehem metallurgist. His advice, based on experience gained in dealing with the alloy-steel problems of a wide range of industries, is certain to be helpful.

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It's a chrome-tungsten steel, with remarkable ability to remain free of creep and retain its strength at temperatures up to 1000 deg. F. High-temperature fastenings stay tight, and don't need constant retightening, when fastenings of Supertemp are used.

When you put in bolts or studs of Supertemp use Bethlehem Oil-Quenched Nuts with them. These nuts are hot-forged from high-carbon steel, then heat-treated. They are very strong and tough. The combination of Supertemp Studs or Bolts with Bethlehem Oil-Quenched Nuts provides fastenings that remain strong, dependable, virtually creep-free, under severe combinations of temperature and pressure.

In addition to Supertemp, Bethlehem metallurgists have perfected a group of other alloy steels for high-temperature fastenings. Each of these steels is intended for a certain type of application. They are all available in bar stock as well as in the finished product.

BETHLEHEM LINE PIPE

Bethlehem Pipe has the strong, uniform sections, with smoothly finished ends, and the flexibility and easy-welding qualities, that are essential in pipe for line service.

In pipe-line work, in any other application, you can depend on Bethlehem Pipe for long, trouble-free service.

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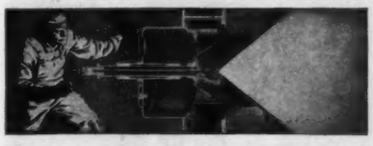
There are easier ways to make cracking stills, but no way that provides vessels of such strong, homogeneous metal, without a single seam or joint . . . Bethlehem facilities permit making one-piece forged. cracking stills in any length, diameter and wall thickness.

Bethlehem-Dahl *Mechanical Atomizing* Oil-Burning System



THIS oil-burning system atomizes the oil mechanically, using its pressure as it is brought to the burners. This method is efficient, quiet and economical to operate. Positive air control enables the operator to admit the exact amount of air required for perfect combustion. The Bethlehem-Dahl System can be applied to practically any type of boiler of 100 hp. or over, and burns successfully any grade of fuel oil, even the heaviest.

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THE oil industry presents the steel-plate maker with some of his toughest problems.

For example, one application may call for plates to be used under temperatures ranging from way below zero to several hundred degrees above. (A tall order!) Another may require a special grade of plate over 3 in. thick, for a butinizer. (It's a lot harder to make thick quality plate than thin.)

And so it goes. These are real problems, calling in every case for a degree of "know-how" far in excess of that required to make plates for ordinary tasks. Bethlehem is solving such problems every day. Some of Bethlehem's largest steel-plate customers are makers of equipment for the oil industry.

What other Flanging Shop has all these Advantages?

NOT many flanging shops are next door to a plate mill. And we know of only one that is within a stone's throw not only of plate mills but open-hearths and blast furnaces; and that one is the Bethlehem Flanging Shop. One result: Every process, every single step, from raw material to completed job, is under one control, one responsibility. Another result: When you want Flanged or Dished Heads made from some special steel in a hurry, you get them in a hurry.

Sealed at the Refinery

A LARGE and steadily increasing volume of motor oil is being marketed today in refinery-sealed quart containers. And a large proportion of these containers are made from Bethlehem Open-Hearth Coke Tin Plate.

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BETHLEHEM Open-Hearth Coke TIN PLATE

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SHEETS
All kinds of sheets: Black and galvanized, flat and corrugated. Sheets of Beth-Cu-Loy (copper-bearing steel) for resistance to atmospheric corrosion.

WIRE
Plain and galvanized; Bethanized wire (special zinc-coated).

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STRUCTURAL SHAPES
SPECIAL ROLLED SECTIONS
PIG IRON
BOILER TUBES

Tide Water's New Steam and Power Plant Secures Maximum Utilization of Energy From Steam

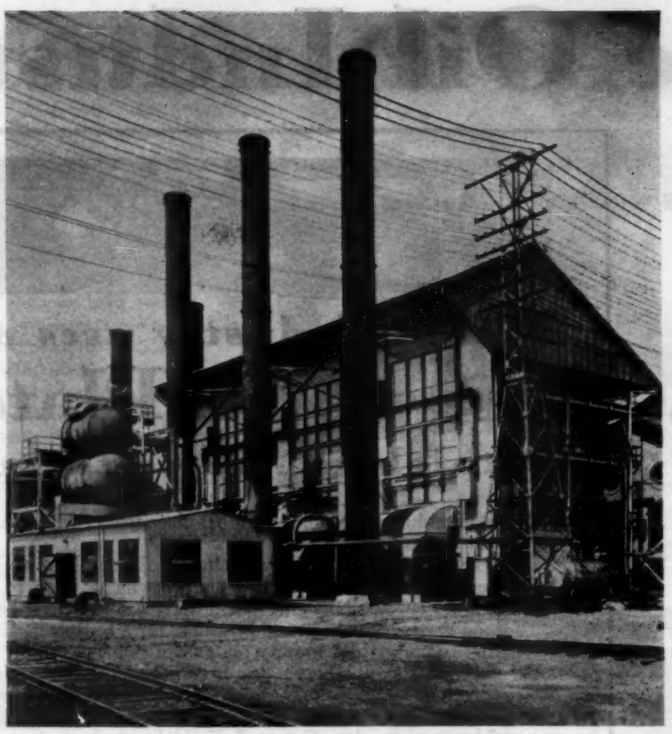
By C. O. WILLSON

The Tide Water Oil Co. recently placed in operation at its Bayonne, N. J., refinery a new power and steam plant which illustrates the latest trends in the design and operation of this division of petroleum refining. In operation, superheated steam at high temperatures and pressures is passed to steam turbines in the generation of electricity and the turbine exhaust steam is then utilized for plant processing with the plant exhaust steam returned to the power plant for use in preheating the feed water.

In effect this type of operation makes it possible for the plant to utilize practically all of the steam energy generated by the boilers in contrast to the situation existing in the large steam plants of the public utilities and most industrial operations. In the latter operations the steam after passing through the turbines is largely wasted in condensing water, a loss in steam energy totaling in many cases as high as 75 per cent.

Another feature of the new Tide Water plant not mentioned by the operators but apparent to an observer is the lack of appurtenances or "window dressing" usually associated with power plants outside the oil industry and often found at refineries. The plant was designed and built by Tide Water engineers to serve a specific manufacturing need at reduced costs and the usual superfluous and extraneous construction features are absent.

All the steam generating equipment is housed in a structural steel building, 85x45 feet. The new plant furnishes all the electricity used in the plant and 60 per cent of the steam required for plant processing. The remainder of the process steam is generated at plants located in other parts of the refinery. The Bayonne refinery, which is one of the oldest of the industry now operating, has a crude oil capacity of 50,000 bbls. daily. Its large power and steam requirements are those of a well balanced refinery, including several cracking units and facilities for manufacturing a complete line of lubricants, including many specialties.



General view of new steam and power plant at Bayonne, N. J. refinery of the Standard Oil Co. of New Jersey. View shows firing end of boilers and arrangement of fans. On left are drums used in preheating feedwater with plant exhaust steam

Main Features of Plant

The main features of the plant are as follows:

Two 3,750 K.V.A. turbo-generator sets which operate at 650 pounds pressure and 750° F. with 150 pounds back pressure. At full load each set requires approximately 100,000 pounds of steam per hour.

One 3,750 K.V.A. condensing machine operating at 150 pounds pressure. This is a standby unit formerly used in active service previous to the installation of the new sets.

Three Stirling type boilers rated at 100,000 pounds steam per hour. Operated at 670 pounds pressure and 750° F. temperature.

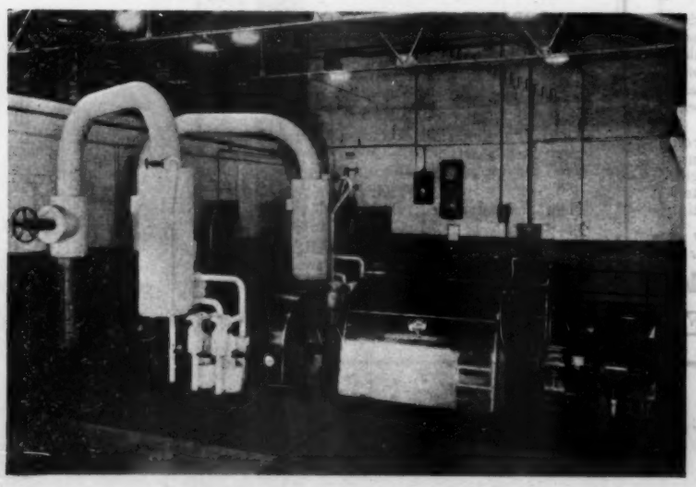
One de-superheater with a capacity of 125,000 pounds per hour. This unit reduces pressure and de-superheats from 650 pounds and 750° F. to 150 pounds and 450° F.

The steam plant is operated with city water fed into a 40'x26' storage tank. The water is first pumped to a feed water heater by a 700-gallon per minute centrifugal pump which is motor driven with a steam turbine standby. The open-type heater in which exhaust steam is mixed directly with feed water has a capacity of 450,000 pounds per hour. This heater increases the temperature of the water to 220° F. The heater has deaerating equipment to remove the dissolved oxygen from the feed water, an important feature in minimizing corrosion problems.

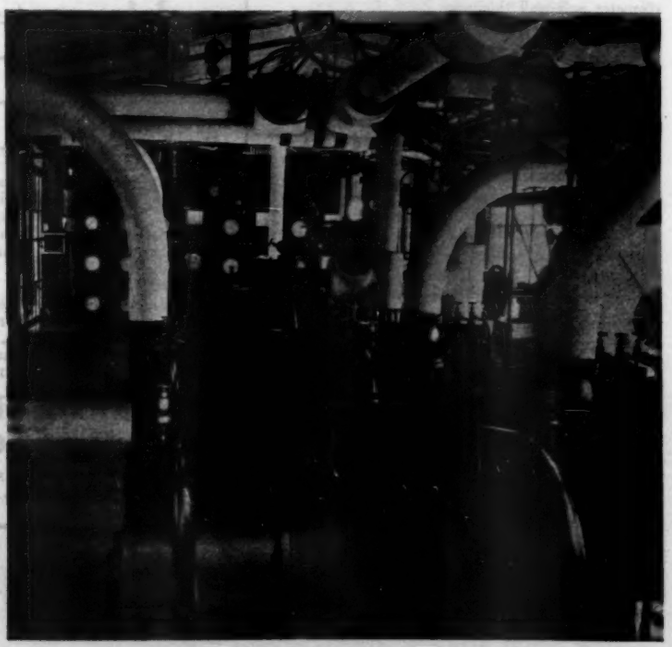
In the heater, the water is given a continuous treatment with caustic soda. As a final chemical treatment at regular intervals, trisodium phosphate is injected into the suction lines of the feed pumps. The amount of chemical used is accurately measured and the entire treating operation is under the direction of the Hall laboratories. The trisodium phosphate reacts on the sulphates in the water to render them nonscale forming in the boilers. The concentration of soluble and nonscale forming salts are removed by continuous blow-down amounting to approximately 2 per cent of the water used by the boilers.

Two motor-driven centrifugal pumps, each with a capacity of 562 gallons per minute, with a 1,900-foot head, pump the water to the boilers. The standby in this operation is a turbine-driven centrifugal pump.

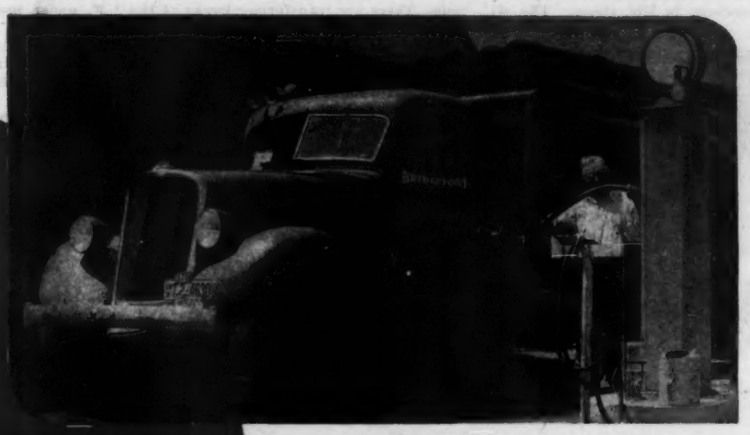
The three boilers have the integral drum type economizers and convection type superheaters. All boiler drums are welded construction Class 1 A.S.M.E. The combustion chambers have water walls consisting of bare tubes on three sides. Each boiler has six mechanical atomizing burners. A Bunker C grade of oil is used as fuel. This fuel is stored in two insulated storage tanks and a temperature of 150° to 160° F. is maintained in storage. The oil temperature is increased to 240° F. by passing the oil from storage through fin-type sectional



Two 3,759 K.V.A. turbo-generator sets



Boiler feed pumps and auxiliaries



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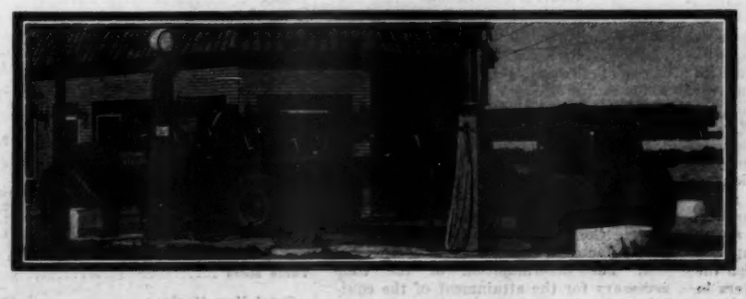

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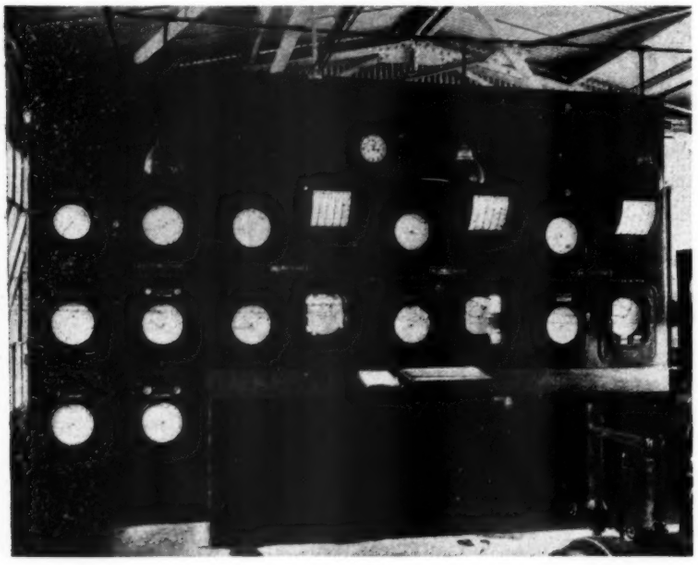
heaters arranged so that any section can be removed from service for cleaning. The heating medium is live steam. The oil is then circulated by pumps to the burners at 250 pounds pressure.



Boiler control panel covering principal features of operation

By extracting heat from the flue gases in the economizers, the temperature of the water is increased from 220° F. to 380° F. The boiler water temperature is maintained at 500° F., which means that the flue gases leaving the boilers are quite hot so that the further extraction of heat by the economizer adds substantially to the economy and efficiency of the boiler operation.

Each boiler has a forced draft fan and an induced draft fan. The induced draft fan is directly connected to a turbo-gear set and the forced draft fan is driven from induced draft fan with a V-belt drive. This arrangement eliminates the necessity of separate drives and tends to keep both fan operations in proper balance for most efficient operation. The steam, after leaving last boiler drum, goes to a conventional type superheater, where the temperature of the steam is increased from 500° F. to 750° F.

Utilization of Steam

The superheated steam is divided between two turbine-generater sets and a de-superheater as previously explained. The normal load on the turbines is about 4,000 kilowatts, equally divided between the two. Under these conditions each turbine requires approximately 75,000 pounds per hour, or a total from the steam plant of 150,000 pounds hourly. The difference between this requirement and the steam output goes to the de-superheater. The steam pressure is controlled manually, the demands being so uniform that automatic control is not necessary.

The temperature of the de-superheated steam is controlled automatically by spraying definite quantities of water at 220° F. into the steam line. This serves the double purpose of lowering the steam temperature and adds to the steam produced, the increase amounting to approximately 15 per cent. The de-superheater is operated to maintain about 50° F. superheat. This steam is used for plant processing work and the superheat results in improved operation of pumps and also is more desirable when used for process work in stills and towers. The steam from the main turbines exhausts at 150 pounds pressure and about 100° F. superheat and goes to the process mains along with the steam from the de-superheater. The remainder of the steam is obtained from three smaller steam plants located adjacent to the refinery distillation units which they serve.

The electric power is generated at 2,400 volts and distributed through several main power circuits. Branch circuits are 2,400 volts and others 550 volts. There are transformer banks at the power house which reduce from 2,400 to 550 volts for distribution on low voltage lines. There are also two other transformer stations in yard which reduce from 2,400 to 550 volts.

First High Pressure Gas Line Completed in Austria

(Continued from Page 37)

morning and again 24 hours later. On the second morning, a small amount of water that had condensed in the glass tube above the column of mercury had frozen and prevented the mercury from falling. We at first thought that Oberbaurat Schlogl would pronounce the test perfect—but not so; he had figured on the ice forming above the mercury and instantly thawed it by applying his hand to the tube. However, the test showed only a small pressure drop (2 inches of mercury in a total of 15 feet), which was traced to a valve flange and repaired. The couplings in the line had been left uncovered until after tests were made. The 12¾-inch part of the line was walked and every coupling was tested, under pressure, with soap water—but no leaks were found. Later, the entire line was tested under gas pressure of 220 pounds per square inch throughout the 8⅝-inch portion and 150 pounds in the 12¾-inch section. The pressure drop in 24 hours, adjusted for temperature variation, did not exceed 0.20 pounds per square inch, which difference was smaller than that due to the probable error in ground temperature readings and indicated the line to be practically gas tight.

Gas Displaces Coal

Gas is now being delivered to the Simmering station electric power plant, owned by the city. At the present time one of the four large high pressure boilers at this plant has been converted to the use of natural gas as fuel, displacing coal. These boiler units are each rated at 110,000 pounds of steam per hour at 500 pounds pressure and 790° F. steam temperature. Five large gas burners with 18-inch throats and of the rotating air type (purchased from Peabody Limited, London) were placed in the front wall of the furnace converted. Gas is supplied to the burners at a maximum pressure of 10 pounds, at full load. Regulation of gas fuel is automatic by means of a differential gas regulator at the furnace, controlled by the pressure of the steam leaving the superheater. Air is supplied by twin forced draft fans, from which the air passes through twin air preheaters in the stack, thence through air pockets in the furnace walls and into the insulated windbox in which the gas burners are set, arriving at the burners at about 300° F. under pressure of 2 inches of water. An exhaust fan in the stack outlet induces a slight vacuum in the furnace.

Upon beginning operation with gas it was found that the temperature of the superheated steam soon dropped below rating and became too low for satisfactory results in the turbines. This occurred because the gas flames cleaned the soot and scale from the lower boiler tubes, permitting a large proportion of the heat produced to be absorbed before the products of combustion reached the superheater. This difficulty was remedied by placing baffles in the flue gas passages through the superheater, which increased the heat transfer in the superheater itself and raised the final steam temperature satisfactorily. The furnace operates on test at 8 to 9 per cent CO_2, indicating for the particular gas burned, about 10 per cent excess air. The gas contains 96 per cent methane and tests 980 gross B.t.u. per cubic foot, dry. Approximately 1.50 cubic feet of gas per pound of steam produced at 500 pounds pressure and 790° F. is required, which, with feed water temperature of about 260° F., indicates a furnace and boiler efficiency of around 80 per cent.

This performance of the boiler appears to be reasonably satisfactory for a conversion job, but of course it could not have been guaranteed beforehand. Here again the Austrian engineers were cautious and took no chances on what could or could not be done with natural gas; for, instead of contracting to buy gas at a fixed rate per cubic meter or per 1,000 cubic feet, they agreed to pay a certain price per pound of steam generated. Payments for gas are based upon the readings of a steam meter, checked by a feed water meter and adjusted for steam temperature and pressure variations, computed from the steam tables. This basis of payment is a rather certain means of getting results out of any fuel, from the fuel user's standpoint, and incidentally, it should prove to be a very convincing method to be used by gas companies in the sale of gas to prospective industrial customers.

The natural gas project is now in full operation, the Vienna electric power plant is using natural gas as its base load fuel, and it is planned to convert additional units to the use of gas.

Study in Effect of Time and Recycling on Product

(Continued from Page 12)

ing to $r = 0.5$, 1 and 2, we draw the perpendiculars. Across the intersections of these perpendiculars with straight lines $k - 5$, 10, 20, on the same graph, a horizontal is drawn until it intersects the curves $r - 0$, 5; 1; 2; on the right graph; thus we obtain the following points of intersection A, A^1 and A^2 corresponding to $k - 20$; B, B^1 and B^2 corresponding to $k - 10$, and C, C^1 and C^2 corresponding to $k - 5$. When connecting these points of intersection we find the curves of the minimum contact period for different values, with "k" constant.

The graph on Figure 3 shows that increasing the recycle coefficient decreases the percentage amount of fraction, which remains in the contact system for one cycle only, as well as the cycle period.

General Conclusions

By the use of these graphs, it is possible to solve certain practical problems connected with the contact plant design. These applications may be summarized as follows:

1. The determination of the average contact time for a given capacity factor.
2. The determination of the composition curve of the final product, obtained for a given capacity factor.
3. The determination of the minimum contact period and of the fractional per cent in the final product for a given capacity factor and the recycle coefficient.
4. The determination of the time necessary for the attainment of the equilibrium state after the plant has started. The latter corresponds to the time when the composition curve touches the ordinate 100 or approaches it at the predetermined value (1-2 per cent).
5. Furthermore, the use of these curves in the laboratory, where batch treaters are available, makes possible the preparation of a product similar to that obtained at the continuous contact treating plant and allows the comparison of the laboratory results with practical plant data.

The writer is indebted to Mr. Orochko, the engineer of the Aviation Fuels and Lubricants Research Institute, for valuable data and suggestions.

Gasoline Sales Exceed Record of Last Summer

(Continued from Page 25)

low octane material to 7 cents for the ethylized branded regular grades of the major refiners. There are reports in the trade that the gasoline buying program which so far has been largely confined to East Texas will have to be spread to include some larger operators in other areas if all the potentially distress material is to be removed from the market and dumping prevented over the next 30 days.

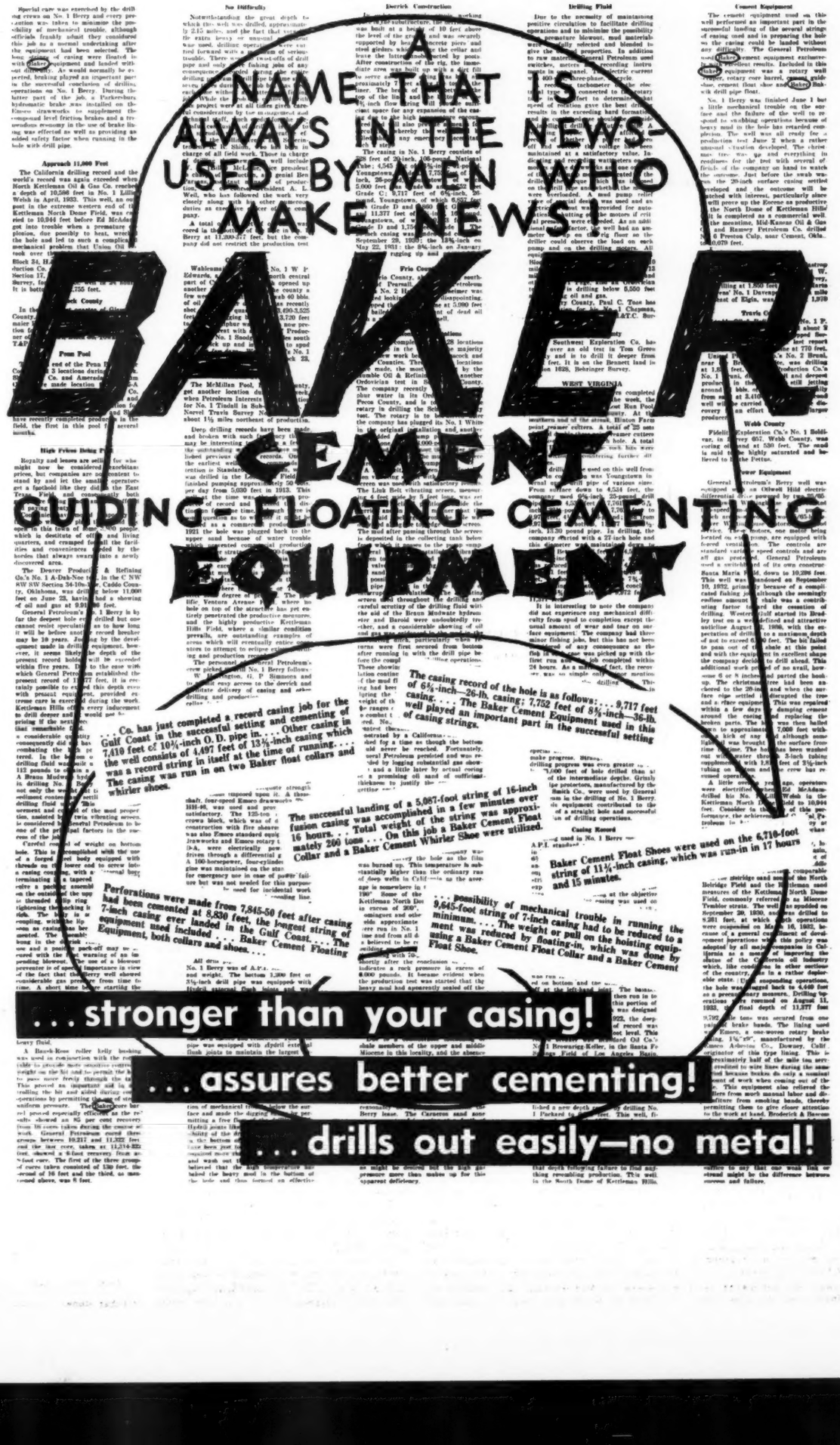
The export gasoline market continues inactive with the quotations at the Gulf of little significance since the spot business available is going to refiners outside the United States at lower prices.

Kerosene in New York habor is quoted by several factors at 5¼ cents with others quoting 5½ cents. Bunker fuel is quoted at $1.30 per barrel with some of the trade predicting lower prices shortly. Gas, oils and furnace oil quotations are unchanged. Crude scale wax is weak with sales reported as low as 3.2 cents per pound. The quotations on the refined grades are unchanged.

ROCKY MOUNTAIN RUNS

Estimated daily average production for the week ending July 28 follows:

WYOMING	
Salt Creek	17,520
Big Muddy	1,830
Badger Basin	40
Byron	570
Black Mountain	550
Dallas Derby	600
Dutton Creek	80
Elk Basin	570
Ferris	20
Frannie	2,160
Garland	1,700
Grass Creek	780
Greybull	10
Hamilton Dome	990
Hudson	310
LaBarge	1,430
Lance Creek	300
Lost Soldier	1,490
Mule Creek	shut in
Midway	70
Notches	shut in
Oregon Basin	2,770
Osage	1,000
Pilot Butte	10
Rex Lake	30
Rock River	1,530
South Casper	620
Polson Spider	240
Teapot	20
Total Wyoming	37,240
MONTANA	
Buckley-Border	360
Cat Creek	600
Cut Bank	2,650
Dry Creek	shut in
Kevin-Sunburst	4,400
Lake Basin	40
Pondera	870
Total Montana	8,920
COLORADO	
Florence	180
Fort Collins and Wellington	530
Iles Dome	1,840
Moffat	470
Orchard	90
Rangely	90
Tow Creek	180
Total Colorado	3,380
NEW MEXICO	
Artesia	510
Cooper area	390
Empire area	110
Eunice area	2,100
Getty Pool	0
Hobbs	36,700
Hogback	200
Hospah	shut in
Jal	2,860
Lea area	1,840
Jackson	1,070
Maljamar	290
Rattlesnake	730
Table Mesa	90
Total New Mexico	46,890
Total Rocky Mountain region	96,430


A NAME THAT IS ALWAYS IN THE NEWS—USED BY MEN WHO MAKE NEWS!
BAKER
CEMENT
GUIDING - FLOATING - CEMENTING
EQUIPMENT
. . . Co. has just completed a record casing job for the Gulf Coast in the successful setting and cementing of 7,410 feet of 10¾-inch O. D. pipe in. . . . Other casing in the well consists of 4,497 feet of 13⅜-inch casing which was a record string in itself at the time of running. . . . The casing was run in on two Baker float collars and whirler shoes.
The casing record of the hole is as follows: . . . 9,717 feet of 6⅝-inch—26-lb. casing; 7,752 feet of 8¼-inch—36-lb. casing. . . . The Baker Cement Equipment used in this well played an important part in the successful setting of casing strings.
The successful landing of a 5,087-foot string of 16-inch casing was accomplished in a few minutes over 16 hours. . . . Total weight of the string was approximately 200 tons . . . On this job a Baker Cement Float Collar and a Baker Cement Whirler Shoe were utilized.
Baker Cement Float Shoes were used on the 6,710-foot string of 11¾-inch casing, which was run-in in 17 hours and 15 minutes.
Perforations were made from 7,845-50 feet after casing had been cemented at 8,830 feet, the longest string of 7-inch casing ever landed in the Gulf Coast. . . . The Equipment used included . . . Baker Cement Floating Equipment, both collars and shoes. . . .
. . . Possibility of mechanical trouble in running the 9,645-foot string of 7-inch casing had to be reduced to a minimum. . . . The weight or pull on the hoisting equipment was reduced by floating-in, which was done by using a Baker Cement Float Collar and a Baker Cement Float Shoe.
. . . stronger than your casing!
. . . assures better cementing!
. . . drills out easily—no metal!

With Contending Forces Working on Chicago Market, Prices Stand Still

By SPECIAL CORRESPONDENT

CHICAGO, July 30.—Tank car gasoline prices, now being watched more closely by the trade than in a long period, have been virtually at a standstill in the last few days, with contending forces at work on the general market situation. Major company buying in East Texas has supplied the principal element of support and the continued offerings from other sellers, with slack buying from jobbers, has tended to undermine the structure.

The immediate outlook is still considered in most conservative quarters as being rather uncertain. It is difficult to predict how soon the buying program will be rendered more efficient, in order to dry up the outside offerings being made to the trade. The consumption is holding up at a good rate in the aggregate, although reports indicate it is highly spotty. Also the rate of incoming shipping instructions against contracts suggests that jobbers are doing a good tank wagon and retail business.

Deny Reported Improvement

The irregular nature of business is emphasized in the attitude taken by the newly formed State Executives Council which under date of July 27 addressed Petroleum Administrator Ickes and criticized his recent statements that the petroleum industry had seen great improvement. This is not generally the case with oil marketing, according to the council, which is made up of executives of state oil marketing associations. Such statements of improvements when such is not the case damages the industry in the minds of the public when efforts are made to strengthen the price structure, it is stated. Disagreement exists in the trade as the actual state of affairs and the effect of conditions on the various factors in the industry. Price cutting continues over large sections, mostly in the way of local disturbances. Efforts are being made to stabilize the situation in several metropolitan areas, notably Chicago, where the cartel plan is the subject of negotiation by some large and small operators. However, no marked progress is yet noticed.

Jobbers Wary

Under these circumstances, jobbers are still wary of large-scale participation in tank car buying, especially when they appear doubtful of the outcome of the East Texas buying plan. They are somewhat worried by their marketing situation at home and many of them say that currently they are not trying to analyze the market situation nor keep closely in touch with it.

Strength in natural gasoline recently has perhaps aided a bit in keeping the refinery gasoline prices where they are. The feeling in the trade with reference to natural appears to be considerably more optimistic than a month ago.

Watch Drought

The trade here is much interested in the drought situation. Conditions in many sections of the Northwest are such as to create considerable pessimism. Heat recently has been excessive over large areas, but meanwhile grain prices have been tending higher and this is regarded as a helpful influence.

Kerosene

Kerosene is now a little firmer than it was, with prices about unchanged. Demand is fairly good and offerings not at all heavy. Actual consumption probably is not exceptionally large currently, but a fair amount is moving to farmers.

Heating Oils

Heating oils also have been giving a little better account of themselves. Offerings at low prices have been disappearing. Distributors are signing up for

(Continued on Page 51)

Crude Oil Prices

(Continued from Page 27)

Effective September 29 in Salt Flat by Shell Petroleum Corp.

Rocky Mountain States

Iles, light (Sept. 29, 1933)	$.96
Iles, heavy (Sept. 29, 1933)	.90
Florence, Colo. (June 17, 1933)	.30
Fort Collins and Wellington, Colo. (June 17) .....(See Salt Creek prices)	
Big Muddy (Sept. 29, 1933)	1.01
Frannie, light (May 1, 1934)	.70
Frannie, heavy (Sept. 29, 1933)	.62
Salt Creek and La Barge (Sept. 9, 1933) See Stanolind Mid-Continent price schedule	
Grass Creek, light (Sept. 29, 1933)	1.18
Grass Creek, heavy (Dec. 15, 1932)	.45
Elk Basin (Sept. 29, 1933)	1.18
Rock Creek (Sept. 29, 1933)	1.02
Dutton Creek (July 8, 1933) .....See Mid-Continent gravity prices	
Lance Creek (Dec. 16, 1932)	.92
Poison Spider (Mar. 5, 1931)	.70
Hudson (June 2, 1931)	.65
Lander (Mar. 5, 1931)	.40
Rex Lake (Feb. 22, 1930)	1.10
Osage	1.03
Lost Soldier (Sept. 30, 1933)	.88
Hamilton Dome:	
Below 18° (July 1, 1934)	.52
18° and above (July 1, 1934)	.62
Torchlight (Sept. 29, 1933)	1.18
Greybull (Sept. 29, 1933)	1.18
Pondera	1.15
Sunburst (Sept. 29, 1933)	1.35
Cat Creek, Montana	1.07
Hogback (Sept. 29, 1933)	1.11
Lea County, N Mex. (Sept. 29, 1933)	.75
Maljamar (Sept. 29, 1933)	.75
Artesia-Jackson (Dec. 1, 1933)*	.75

Note—Salt Creek, Torchlight, Elk Basin Grass Creek, Frannie, Greybull, Hogback and Iles by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective September 29, 1933, by Humble Oil & Refining Co. and other buyers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro. Hamilton Dome, Wyo., by Stanolind Oil & Gas Co.

*Continental Oil Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades)	$.70
Tullos-Urania, La. (Jan. 13, 1934)	.87
Nevada, Ark. (Sept. 29, 1933)	.60
East El Dorado (Sept. 29, 1933)	.70
Converse, La. (Mar. 17, 1934)	1.03
Elm Grove, La. (Sept. 29, 1933)	.75
Holly, La. (Mar. 17, 1934)	1.03
Pleasant Hill, La. (Mar. 17, 1934)	1.03
Zwolle, La. (Mar. 17, 1534)	1.03
Champagnolle, Ark. (Mar. 17, 1934)	.81
Lisbon, Ark. (Mar. 17, 1934)	1.03
Stephens, Ark. Sept. 29, 1933)	.75
Urbana, Ark. (Mar. 17, 1934)	.60
Other fields .....(See gravity table)	

Note—Smackover: Effective September 29, 1933, Texas Co., Magnolia Petroleum Co. Standard of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. and Phillips Petroleum Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co., Nevada by Standard Oil Co. of Louisiana. Urania posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co. Converse, Holly, Zwolle and Urbana by Standard Oil Co. of Louisiana; Elm Grove by Simmons Oil & Refining Co.; Pleasant Hill by Standard Oil Co. and Magnolia Petroleum Co Champagnolle by Standard Oil Co. and Lion Oil & Refining Co.

Eastern States

TIDE WATER PIPE CO.
(Effective May 1, 1934)

Bradford, Pa.	$2.51
Allegany, N. Y.	2.51

SOUTH PENN OIL CO.
(Effective May 1, 1934)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$2.55
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.32
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.17
Pennsylvania Grade Oil in Buckeye Pipe Line lines	2.07
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Oct. 2, 1933)	1.33

PENNZOIL CO.
(Effective May 1, 1934)

Pennsylvania Grade Oil in National Transit Lines:	
Group A ..... Includes Cochran, Franklin, Hamilton and Doolittle districts.	$2.47
Group B ..... Includes Titusville district.	2.46
Group C ..... Includes Turkey and Tidioute districts.	2.46
Group D ..... Includes Bear Creek and Porkey districts.	2.44
Group E ..... Includes Edeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson Kennerdell, Emlenton, Tiona, Lacey and Kinsua districts. Price depends on length of pipe line haul to plant at Oil City.	2.43

PURE OIL CO.
(Effective May 1, 1934)

Cabin Creek, W. Va.	$2.17
Bradford Hollow, W. Va.	2.17
Kelly Creek, W. Va.	2.17

Middle Western States

OHIO OIL CO.
(Effective September 29, 1933)

Lima	$1.30
Illinois (Jan. 5, 1934)	1.13
Princeton, Ind. (Jan. 5, 1934)	1.13
Plymouth	Shut-In
Western Kentucky (May 26, 1934)	$1.09
Midland, Mich. (Sept. 30, 1933)*	1.02
Oceana, Mich. (Oct. 5, 1933)	.90
Somerset, Ky. (Sept. 30, 1933)	1.33
Hart County, Ky. (Oct. 1, 1932)	1.19

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Hart County, Kentucky, crude purchased by Stoll Refining Co. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

Canada

Ontario (September 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (May 21, 1934):†	
Clear Naphtha	$2.65
Discolored naphtha	2.31
Crude oil, 50 gravity	2.10
Crude oil, 45 to 49.9	2.07
Crude oil, 40 to 44.9	1.50

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$0.94

*F.o.b. ship, based on May transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective September 6, 1933)

For current purchases of crude oil at the well (unless otherwise specified.) (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	..	$.65	$.65	$.65	$.65	....	$.65	$.57	$.57	$.57	$.65
15-15.9	.65	.65	.69	.69	.66	.69	....	.66	.65	.65	.65	....	.65	....	....	....	.65
16-16.9	.66	.65	.72	.73	.69	.72	....	.69	.67	.68	.65	....	.65	....	....	....	.65
17-17.9	.69	.65	.75	.76	.73	.74	....	.72	.70	.71	.65	....	.68	....	....	....	.68
18-18.9	.72	.65	.78	.80	.76	.78	....	.75	.74	.74	.65	....	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.82	....	.78	.78	.78	.65	....	.74	.64	.65	.62	.74
20-20.9	.78	.68	.83	.87	.83	.86	....	.81	.82	.81	.66	....	.78	.67	.69	.65	.78
21-21.9	.81	.72	.86	.90	.87	.88	....	.83	.85	.84	.69	$.72	.81	.70	.73	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	....	.85	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.95	$.83	.89	.92	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.85	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.83	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	....	1.00	1.01	.90	.95	1.00	....	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	....	1.04	1.04	.94	.98	1.04	..	.89	.90	.96	.89	.88	....	.96
27-27.9	1.00	.98	1.04	....	....	1.07	.97	....	1.08	....	....	.94	.99	.93	.91	....	.99
28-28.9	1.02	1.02	1.07	....	....	1.10	1.01	....	1.11	....	....	.98	1.02	.97	.94	....	1.02
29-29.9	1.06	1.05	1.09	....	....	....	1.04	....	1.15	....	....	1.01	1.05	1.01	.97	....	1.06
30-30.9	1.09	1.10	1.13	....	....	....	1.08	....	....	....	....	1.05	1.09	1.05	1.00	....	1.09
31-31.9	....	....	....	....	....	....	1.12	....	....	....	....	1.08	1.12	1.09	....	....	1.12
32-32.9	..	....	....	....	....	....	1.15	....	....	....	....	1.12	1.15	1.13	....	....	1.15
33-33.9	....	....	....	....	....	....	....	....	....	....	....	1.16	1.18	1.17	....	....	1.18
34-34.9	....	....	....	....	....	....	....	....	....	....	....	1.19	1.21	....	....	....	1.21
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.22	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.26	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.30	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.34	....	....	....	....	....

Additional Standard Oil Quotations

Mountain View—Effective July 2, 1934, the following are the prices of the Standard Oil Co. of California for its current purchases of crude oil at the well in the Mountain View Field: 14 to 19.9 degrees, 57 cents; 20-20.9, 58 cents; 21-21.9, 59 cents; 22-22.9, 61 cents; 23-23.9, 63 cents; 24-24.9, 66 cents; 25-25.9, 69 cents; 26-26.9, 72 cents; 27-27.9, 75 cents; 28-28.9, 78 cents; 29-29.9, 81 cents; 30-30.9, 84 cents; 31-31.9, 87 cents; 32-32.9, 90 cents; 33 degrees and above, 93 cents.

Elwood Terrace—F.o.b. ship, 33 degrees, $1.03; 34 degrees, $1.06; 35-35.9, $1.09; 36-36.9, $1.12; 37 degrees and over, $1.15.

Newhall—14 degrees and over, 57 cents.

McKittrick and Kern River—14 degrees and over, 57 cents.

Wheeler Ridge—14 to 17.9 degrees, 57 cents; 18-18.9, 58 cents; 19-19.9, 61 cents; 20-20.9, 64 cents; 21-21.9, 67 cents; 22-22.9, 70 cents; 23-23.9, 73 cents; 24-24.9, 76 cents; 25 degrees and over, 79 cents.

Kettleman Hills—33-33.9 degrees, 93 cents; 34-34.9, 96 cents; 35-35.9, 99 cents; 36-36.9, $1.02; 37-37.9, $1.05; 38-38.9, $1.08; 39 degrees and over, $1.11.

The Texas Co. posted in Shiells Canyon, South Mountain and Santa Paula as follows: 14 to 17.9, 57 cents; 3 cents added for each degree up to and including 26-26.9 degrees at 84 cents; then 4 cents added for each degree up to and including 30 degrees and over at $1. Company posts Standard Oil Co.'s Montebello prices in Montebello and North Whittier, and posts Standard Oil Co. prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield and Santa Fe Springs, all effective September 6.

General Petroleum Co. posts Standard Oil Co. prices in Athens, Rosecrans and Signal Hill; Alamitos Heights up to 26-26.9; Santa Fe Springs up to 35-35.9; Richfield up to 25-25.9; Brea Canyon and Olinda up to 25-25.9, and Torrance up to 26-26.9.

Union Oil Co., effective September 6, posts same price as Standard Oil Co. in all fields in which both purchase, excepting that in Athens-Rosecrans, Union Oil Co. posts 21-21.9, 72 cents, and 33-33.9, $1.18; 34-34.9, $1.21, and 35-35.9, $1.24.

Associated Oil Co., effective September 6, posted same prices for the same grades as Standard Oil Co. of California, excepting that in some fields its gravity scale stops as follows: Huntington Beach, 28 degrees and over; Seal Beach and Alamitos Heights, 26 degrees and over; Coyote Hills, 23 degrees and over; Richfield, 25 degrees and over; Torrance, 26 degrees and over; Inglewood, 24 degrees and over; Santa Fe Springs, 35 degrees and over; Midway-Sunset, Elk Hills, Buena Vista Hills, 30 degrees and over. Also Associated pays 82 cents for oil of 11 to 13.9 gravity in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills and Coalinga.

Second Deep Producer Near Bruni Largest Yet; Deep Drilling Play in Webb County Likely

SAN ANTONIO, Tex., July 30.—Interest during the past week in the Southwest Texas area was focused on the second deep producer near Bruni in Webb County when the well came in, regarded by some, as the largest producer yet completed in the Laredo district.

United Production Co.'s No. 2 Bruni in the West Cole Field and 800 feet northeast of the company's No. 1 producer, topped sand 3,390 feet and bottomed hole at 3,421 feet. After drilling plugs the well first came in flowing 20 bbls. an hour and later the flow increased to 45 bbls. per hour.

The well started attracting attention last week when on a 6-minute drill stem test from 3,396-3,421 feet it showed 23 fourbles of 41.7 gravity oil and had a working pressure of 100 pounds.

These two wells are the deepest in the Laredo district and will in all probability be the beginning of an active deep drilling campaign in the area.

The discovery well, No. 1 Bruni, had sand from 3,410-13 feet and from 3,414-17 feet and is making only a small amount of high gravity oil. No. 2 was drilled deeper into the sand than the discovery and it is reported the operators are planning to deepen the discovery in hopes of completing it for a good producer.

About a mile to the north of the new producer, Cole Petroleum Co.'s No. 85 Benavides cored sand 3,400-15 feet and on a test showed 240 feet of oil. At last report it was coring deeper. About a mile east of Bruni, Klamor Production Co. had completed derrick for No. 1-B Bruni estate 300 feet from northwest line and 418 feet from southwest line of Block 23 M. Arispe grant.

Angelita Area

In the Angelita area, San Patricio County, Continental-Atkins & O'Neil's No. 1-A Welder in Block 2 of the Hart Survey was drilling plugs after setting 7-inch casing at 5,441 feet. Total depth of the hole is 5,453 feet. Two locations south of Circle W Oil Co.'s No. 1 Welder, Continental-Atkins & O'Neil's No. 2 Welder was also drilling plugs with a total depth of 5,383 feet. Before setting casing, a drill stem test was made and it showed 7 joints of oil and built up 575 pounds presure in 7 minutes from 5,372-83 feet. Something definite should be known on these wells during the early part of the week.

Sinton Area

In the Sinton area and west of Plymouth's discovery, Petrol Corp.'s No. 1 Welder was coring 5,375 feet and reported running low. Heep's No. 3 R. Welder in the Loupey Survey was drilling below 4,210 feet. Heep is reported to have received from R. H. Welder 300 acres along the railroad north of Sinton for a reported consideration of $10 cash and $150 per acre out of oil. Heep is to start a well on the lease within 30 days. Plymouth Oil Co.'s No. 2-A Welder, 1,320 feet due east of No. 1-A, was coring the 5,400-foot sand again after plugging back from 5,548 feet to 5,300 feet. Before deepening the well operators made a drill stem test from 5,427-29 feet and it showed 600 pounds pressure and 40 feet of gasoline in 8 minutes. Plymouth's No. 1-B Welder, 3,500 feet northwest of No. 1-A, has been temporarily abandoned at 5,660 feet. It cored sand and sandy shale from 5,441-50 feet and on drill stem test showed 210 feet of oil, 180 feet of salt water, and 900 feet of mud. The oil tested 36 gravity. Plymouth is reported moving in to shoot its option which covers 30,300 acres east of its present leases.

Near Gregory and in the George H. Paul subdivision, Jane Oil Co.'s No. 1 Ragsdale Bros. was fishing with total depth of 5,518 feet. It topped the Discorbis at 5,025 feet. Marland Oil Co. of Texas' No. 1 Micalastic in Section 6 of the George H. Paul subdivision was drilling 2,155 feet. Humble Oil & Refining Co. is reported to have recently taken spreads totaling $20,000 around the well. Humble is also reported to have recently taken considerable acreage north of Taft.

Frio County

About 4 miles southwest of Pearsall in Frio County, Amerada Petroleum Corp.'s No. 2 Huff & Oppenheimer was drilling below 6,375 feet. The well will probably be carried to the Glenrose and perhaps deeper. It topped the Georgetown lime 5,900 feet but failed to carry anything in the way of commercial production.

Duval County

In the old Driscoll Pool of Duval County, Continental Oil Co.'s No. 2-A Clara Driscoll Sevier, second deep well for the field, late in the week had cored sand with an odor of oil from 3.834-43 feet. About one-half mile east of Trinity Drillers' No. 1 Hagist dry hole. W. C. McBride Co.'s No. 1 Hagist was shut down at 1,532 feet. It had the Cole sand at 1,444 feet which tested dry also sand showing gas at 1,000 feet. About 5 miles south of San Diego, Sun Oil Co.'s No. 1 Moreno in the H. & W. Survey No. 537, was drilling below 6,150 feet. East of the Cole Field, O'Brien & Jennings' No. 1 Benavides in Survey No. 355 was shut down 1,345 feet.

North Pettus

The North Pettus Field, which includes parts of Bee, Karnes, and Goliad Counties, marked up two completions during the past week and two other wells had topped the Pettus sand and are due to be completed early in the week. Magnolia Petroleum Co.'s No. 4 Porter, 500 feet west of its No. 3 well, bottomed hole at 3,670 feet and has been completed for 285 bbls. daily through eleven-thirty-second-inch choke. It showed a pressure of 110 pounds on tubing and 325 pounds on casing. Magnolia's No. 5 Porter, 425 feet from No. 4, was completed for 250 bbls. daily through thirteen-sixty-fourth-inch choke after drilling to a total depth of 3,655 feet. It topped the Pettus sand at 3,645 feet. Same company's No. 6 Porter was waiting on cement with total depth of 3,700 feet after topping the Pettus sand at 3,690 feet. Houston Oil Co.'s No. 3-B Neihaus in the B. S. & F. Survey topped the Pettus at 3,645 feet and was making a drill stem test after drilling to 3,662 feet.

Bee County

In the Ceaser area of Bee County Falvey and others' No. 1 Gardner bottomed hole at 3,064 feet and on a 10-minute drill stem test from 3,053-64 feet it showed eight joints of mud and salt water with a slight show of oil. At last report it was shut down for orders. Phillips Petroleum Co.'s No. 1 Morgan in the Eyles Survey has been abandoned as dry at 6,697 feet. About 3 miles west of Papalote and 4 miles south of Skidmore, Howeth & Swiger's No. 1 Marie Schram estate was drilling 4,750 feet. R. H. Feltner and others' No. 1 Theis, about 9 miles northwest of Beeville, was shut down at 3,534 feet. E. M. Jones had completed derrick for No. 1 S. E. Robinson about 1¼ miles southwest of Tuleta, in Section 5 of the Uranga Grant.

Starr County

In the Jeffries-Lambeth area of Starr County, Smith-Tex Oil Co.'s No. 1 Starr County Cattle Co. was shut down at 3,610 feet. It had the Jeffries-Lambeth sand at 2,400-26 feet which tested dry and also sand with a strong odor of oil and considerable gas from 2,700-55 feet. In the northern part of the county, Circle W Oil Co.'s No. 1 Block in Survey No. 167 was drilling at 3,545 feet. East of the well and in the Las Retaches Grant, Humble Oil & Refining Co. is reported to have recently taken the south 592 acres in Block 8.

Jim Hogg County

In Jim Hogg County, Sun Oil Co.'s No. 2-E M. Guerra & Son was drilling below 2,250 feet. In the southwest part of the county O'Brien & Jennings are reported to have turned around 5,000 acres to the Sun Co. for a reported consideration of $17,500. Sun is now drilling its No. 1 Martinez estate on the 5,000-acre block. At last report it was drilling below 1,700 feet. W. G. French's No. 1 T. T. East in the Las Moritas grant has been abandoned as dry at 2,714 feet. It topped the Cole sand at 1,892 feet.

Bastrop County

Northwest of the Cedar Creek Field in Bastrop County, Joe Mills and others' No. 1 H. H. Litton in the Antonio Navarro Survey had bottomed hole at 1,629 feet and was waiting on cement to set. It is estimated by some that the well is good for around 350 barrels a day. It had soft Serpentine showing oil from 1,627-29 feet.

Cameron County

North of San Benito in Cameron County Magnolia Petroleum Co. has secured a six months shooting option on 9,000 acres of the Brown ranch.

Caldwell County

About 7 miles southeast of Lockhart, Caldwell County, Wagner-Daniels & Stierene's No. 1 S. M. Blackwell in the John Roe Survey has been abandoned with total depth of 2,351 feet. It topped the Buda at 2,190 feet, had Edwards at 2,238 feet which showed sulphur water, drilled top of Del Rio at 2,250 feet, and topped Georgetown at 2,298 feet

Guadalupe County

Near Kingsbury and in the northeast part of Guadalupe County Hollifield's No. 1 Bailey has been abandoned at 2,203 feet after testing sulphur water. It drilled base of Buda at 2,098 feet and topped Edwards at 2,197 feet. Diamond Half Oil Co.'s No. 1 Ball, about 8 miles southwest of Seguin and in the L. H. Peters Survey was drilling at 1,900 feet.

Hidalgo County

In Hidalgo County Union Sulphur Co.'s No. 2 American Rio Grande Land & Irrigation Co. was spudding. The well is about 1¼ miles southwest of its No. 1, recent failure.

Nueces County

In Nueces County, Stanolind Oil & Gas Co.'s No. 2 Stratton, about a mile northeast of its No. 1 Stratton drilled about three years ago, was drilling below 5,000 feet. On a drill stem test from 4,801-17 feet it showed only a small gas pressure with 6 fourbles of salt water in 10 minutes. Midland Oil Co.'s No. 1 Noakes, in the northern part of the county and in the Georgia Farias grant, was drilling at 5,855 feet. It had sand with odor of gas from 5,329-32 feet.

Live Oak County

About 2 miles southwest of Whitsett, Live Oak County, Unity Petroleum Co.'s No. 1 Terrill was shut down at 935 feet where it was trying to blow out. It had gas sands 460 feet, 580 feet, and 935 feet. About 3 miles east of Whitsett, Lion Oil & Refining Co.'s No. 1 McNeill, in the Jane Curry Survey, was drilling below 3,400 feet.

Maverick County

In Maverick County and about 10 miles north of Eagle Pass, Ollie Wright's No. 1 Little has been abandoned with total of 1,087 feet. It topped the chalk at 820 feet.

Willacy County

In Willacy County, W. W. Silk's No. 1 Stillman, on a 7,000-acre block in the Santa Rosa Subdivision, was drilling 600 feet in gumbo. This is to be a 5,000-foot test.

Williamson County

Northwest of the Chapman Pool about 2½ miles, Williamson County, Taylor Refining Co. and others have completed derrick for N. 1 Pumphrey. The well is 450 feet from the north and west line of 102-acre tract in the W. West Survey.

Zapata County

In the northwest part of Zapata County, Robert Allison was rigging up on No. 1 E. T. Garza, 150 feet out of NE cor. of Block 5, Survey No. 13.

Wildcat Operations in Southwest Texas

Week Ending July 28

ATASCOSA COUNTY

J. R. B. Moore's No. 1 A. Riley, center of Blk. 2 of survey, or 6,300 ft. from S line and 3,500 ft. from E line of county in F. Anthony Sur.
Drlg. rock 1,196 ft.; no report.

BANDERA COUNTY

Parkford et al's No. 1 Mrs. R. L. Duke, G.H.&S.A. Sur., Sec. 7.
Material.

Peerless O. & G. Co.'s No. 1 Garrison Sur. No. 506, 1,500 ft. from N and 2,700 ft. from E lines of Sur. (8 mi. SW of Medina).
Set 500 ft of 15½-in. csg.; S.D.

BASTROP COUNTY

Joe Mills et al's No. 1 H. H. Litton, 1,040 ft. SE line and 1,005 SW line of 320-ac. tract in Antonio Navarro Sur.
T.D. 1,629 ft.; W.O.C.

BEE COUNTY

Caesar Oil Co.'s No. 1 Pullin Est., F. Lewis Sur.
Rigging up.

R. A. Davids' No. 1 Baptist Church, center of 3-ac. church lot, or 150 ft. E of N line of Pullin est., 27-ac. tract in F. Lewis Sur.
Rigging up.

Falvey et al's No. 1 Gardner, 330 ft. out of NE cor. of Gardner tract.
T.D. 3,030 ft.; S.D. for orders.

R. H. Feltner et al's No. 1 Theis, 2,376 ft. E line, 990 ft. S line of 1,034-ac. tract, or 3,640 ft. E line and 3,070 ft. N line of Caetno Rivers Sur.
T.D. 3,534 ft.; S.D.

Howeth & Sivigers' No. 1 Marie Schramm est., 2,332 ft. from W line, 466 ft. from N line of the Schramm 150-ac. tract in Hugh O'Brien Sur. 4,400-ac. block.
Drlg. 4,750 ft.

Elbert Jeanes' No. 1 G. L. Courtney, 1,600 ft. from E line, 330 ft. from S line of tract, G. A. Kerr Sur., 1½ miles NE of Pettus.
Rigging up and S.D.

E. M. Jones' No. 1 S. E. Robinson, 990 ft. W line and 220 ft. S line of tract in ranga grant, Sec. 5.
Derrick.

McLain et al's No. 2 Laura Weiss, B.&B. Sur., 660 ft. E of No. 1.
T.D. 100 ft.; prep. to start up.

Phillips Pet. Co.'s No. 1 Morgan, 4,950 ft. from W, 3,270 ft. from N lines of 13,930-ac. tract, Eyles Sur.
T.D. 6,697 ft.; abd.

(Continued on Page 54)

Well Flowing 3,371 Bbls. Hourly in Pecos County; Wichita Falls Operators Laying Water Lines

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., July 30.—Good possibilities of another new pool being opened in the West Texas district were indicated late in the week, when Humble Oil & Refining Co.'s No. 1 R. M. Means in the north central part of Andrews County, made two heads of an undetermined amount of oil while drilling below 4,316 feet. Based on top of the white lime reported to have been topped at 4,070 feet, it is 246 feet in this formation and is running very high. Good saturation was reported from 4,139-52 feet and below that to the total depth it had several shows in cores recovered. Three drill stem tests have been made, all unsuccessful. The test is in Section 2, Block A-35, P.S.L. Survey on a large block of acreage owned almost entirely by Humble Oil & Refining Co.

Ector County

In Ector County, Landreth Production Co.'s No. 1-B T. P. Land Trust which extended the North Cowden area one-half mile south last week, was shot with 320 quarts from 4,108-4,275 feet and responded with a flow of 908 bbls. in 24 hours with an estimated 5,000,000 feet of gas, making it rank as one of the best wells in the area. It is bottomed at 4,275 feet and is in Section 3, Block 43, Township 1s, T.&P. Survey. Same company's No. 1-C, one-half mile south of No. 1-B, has cleaned up a fishing job and is drilling below 3,920 feet. West of production the company's No. 2-A T. P. Land Trust, in the same section, is waiting on cement to set at a total depth of 3,952 feet.

Winkler County

In the northern part of Winkler County, the wildcat of Sayre Oil Co., No. 1 Howe, in Section 12, Block 16, P.S.L. Survey, caused considerable excitement when it encountered an estimated 1,000,000 feet of gas daily at 2,608 feet and increased to 7,000,000 feet at 2,635 feet which blew the tools up the hole 1,200 feet, causing a fishing job. It is about 1½ miles east of Wahlenmaier Petroleum Corp.'s No. 1 Leck, a small producer in Section 3, Block 26, P.S.L. Survey.

Howard-Glasscock Area

The Howard-Glasscock Field was extended three-quarters of a mile north in Howard County when Illinois Oil Co.'s No. 1 J. B. Davis in Section 2, Block 30, Township 1s, T.&P. Survey, was shot with 690 quarts from 2,550-2,803 feet and swabbed 590 bbls. the first 22 hours. It was shut in for lack of storage. The company recently purchased the well and lease from Stacy Dorn and others for a reported consideration of $16,000 cash and $300 per acre out of three-eighths of production. Iron Mountain Oil Co. of Fort Worth has entered this area and has staked an interesting location a mile north of production in Section 46, Block 30, Township 1n, T.&P. Survey on the C. D. Reid land. No doubt locations for other tests will be announced for this area since the completion of the Illinois Oil Co.'s extension well.

Upton County

Gulf Production Co. will begin drilling plug on its No. 103 McElroy in the McElroy Pool in Upton County this week. A test will be made from 10,581 to 10,631 feet where it is reported to have had a showing of oil and gas. If it does not show for a commercial well it will be carried deeper with a 3-inch hole. Seven and five-eighths inch casing was set at 10,301 feet. It is bottomed at 10,631 feet, believed to be in the Ordovician lime which produces in the Big Lake Field in Reagan County. Location is in Section 197, Block F, C.C.S.D.&R.G.N.G. Survey. The longest single string of casing ever set in a test was run and cemented in this test last week.

Schleicher County

One thousand gallons of acid is to be run in John M. Cooper and others' No. 1 Bert Page, an Ordovician wildcat test in Schleicher County, in a final attempt to develop production from the Pennsylvanian, before deepening to the Ordovician which is expected at around 6,500 feet. The test was shot the first part of the month with 270 quarts from 5,425-5,561 feet which increased sweet gas from 4,818,000 to 6,154,000 feet daily and accompanied for a short time by a light spray of oil.

Runnels County

The McMillan Pool in Runnels County got its ninth producer during the week, when the Petroleum Oil Interest, Inc.'s No. 1-B Brevard, in Subdivision No. 21, Norvell Travis Survey No. 533, began heading oil from saturated lime cored at 2,513-20 feet. It is estimated good for several hundred barrels daily. The wildcat test of H. G. Sawyer, No. 1 Giesecke, 15 miles southeast of Balinger, encountered salt water at 2,294 feet and was abandoned at a total depth of 2,295 feet; 2,000,000 feet of gas daily was encountered at 2,029 feet. It is in the James Hughes Survey No. 227.

Ward County

One of the largest wells that was ever completed in Ward County was California Oil Co.'s No. 4 Durgin, 1,085 bbls. in 24 hours flowing through tubing. It topped the pay at 2,410 feet and was completed at a total depth of 2,555 feet. It is in Section 15, Block 34, H.&T.C. Survey.

Ten new locations and six completions were reported in the West Texas district during the week, all new locations being within proven areas. One dry hole was reported in Howard County, a wildcat test in the Big Spring area on the Frazier land.

Mid-Kansas Oil & Gas Co.'s No. 35-B Yates in the Yates Field, Pecos County, was completed as one of the largest wells in that area lately, when it flowed at the rate of 3,371 bbls. per hour from pay topped at 1,225-1,450 feet, the total depth. It is in Section 61, Block 1, I.&G.N. Survey.

Effective August 1, the allowable from the field will be raised from 41,850 bbls. to 46,500 bbls.

Late news from Humble Oil & Refining Co.'s No. 1 R. M. Means in Andrews County, reports that the operators are trying to pull stuck core barrel and will make a drill stem test as soon as the hole is clear. The latest core, taken from 4,292-4,307 feet, was reported as being highly saturated and the test was heading oil and wash water through the mud, indicating heavy gas pressure.

Scurry County

In Scurry County, Paul C. Teas and others treated their No. 1 Chapman with acid after drilling plugs at 1,663 feet, but no test has been made. It filled 350 feet with oil in 24 hours, the oil reported coming from 1,710-21 feet. The test is a wildcat and is in Section 100, Block 97, H.&T.C. Survey.

WICHITA FALLS DISTRICT

The acute shortage of water has led to approximately 85 per cent of the drilling tests shutting down in this district. Many are shut down in top of the pay. Fain and McGaha of Wichita Falls are spending around $8,000 to lay 8 miles of 2-inch line from their F. C. Green lease in Archer County to their W. L. Andrews land in the Joseph Collingsworth Survey, to furnish water for the completion of wells drilling in or near the sand.

There were 27 locations staked in the district, and 41 tests completed, 16 in Archer County. The 22 producers yielded an initial production of 3,241 bbls., the greater part from lime treated wells in Archer County.

King Royalty Co.'s No. 2-H Waggoner, NW cor. Section 2, Seale and Morris Survey, Abstract 535, logged an oil sand from 1,550-57 feet and pumped at the rate of 10 bbls. per hour when completed. It is 3,000 feet north, 2,150 feet east and 2,750 feet southwest of other producers in the area, and opens more acreage for development on another part of the W. T. Waggoner ranch in Wichita County.

A. B. Reese, Jr., and others of Canton, have 20,000 acres in escrow, the acreage lying 20 miles northeast of Gainesville in Cooke County and 10 miles north of small deep wells developed about six years ago. Location for a test has been made on the A. R. Riddle farm in Block 4, University League 9. It will be drilled with cable tools to 3,000 feet.

W. E. Sherley and others have around 2,500 acres in escrow for a 2,000-foot test, 3 miles southwest of Sanger in Denton County. The block centers in the R. W. Wright Survey, in an area that has seen previous unprofitable exploitation.

Arthur A. Diehl of Fort Worth is spudding a wildcat 9 miles north of Albany and 3 miles northeast of the Alexander production in Shackelford County, in Section 5, E.T.R.R. Survey, to try for production in the Cook sand. It will go to 1,100 feet.

Production in the district averaged 63,170 bbls. per day, an increase of 455 bbls. per day over the previous week. New production was responsible for a good part of this small increase.

PANHANDLE DISTRICT

Only two counties in the Panhandle district reported any completions this week. They were Gray and Wheeler Counties. Gray County had 9 of the 13 tests completed, all oil producers, except a gas well in Wheeler County. The latter county has been getting some exceptionally good wells in the western part where activities have been heaviest during the past two months. Many of the wells completed from the granite wash have made an initial production of 1,000 bbls. or more, and there have been several extensions during the past three months.

There were 15 locations reported for the district, seven in Gray County while Wheeler drew five and Hutchinson County three.

Harold J. Wasson, trustee, of New York City, has purchased the N half Section 13, Block M-21, T.C. Survey, in the Badger Field of Hutchinson County, and will develop the lease at once, now preparing to drill more wells. The sale was made by J. Murphy of Amarillo.

Production in the Panhandle gained 1,110 bbls. per day this week, increasing to 62,710 bbls. from 2,082 wells which are located as follows: 965 in Gray County, 773 in Hutchinson, 254 in Carson, 78 in Wheeler and 12 in Moore County.

Wildcat Operations in West Texas

Week Ending July 30

ANDREWS COUNTY

Honolulu and Llano Oil Co.'s No. 1 J. E Parker, 1,320 ft. from S line and 1,470 ft. from W line of Sec. 7, Blk. A-44, P.S.L. Sur.
U.R.; T.D. 1,668 ft.

Humble Oil & Ref. Co.'s No. 1 B. S. Walker, 660 ft. from E line and 660 ft. from S line of Sec. 6, Blk. A-43, P.S.L. Sur.
Rig up.

Humble Oil & Ref. Co.'s No. 1 R. M. Means, 660 ft. from N and 660 ft. from E of Sec. 2, Blk. 2-35, P.S.L. Sur.
T.D. 4,378 ft.; D.S. test failed.

Humble Oil & Ref. Co.'s No. 1 Kuykendall, 1,920 ft. from S and E lines of Sec. 24, Blk. A-46, P.S.L. Sur.
S.D. 4,611 ft.

BORDEN COUNTY

Continental Oil Co.'s No. 1 Johnson, 660 ft. from S line and 660 ft from E line of Sec. 24, Blk. 32, Twp. 4n, T.&P. Sur.
Drlg. 1,865 ft.

BREWSTER COUNTY

Joiner-McIntyre's No. 1, 853 ft. from S, 2,300 ft. from E of Sec. 31, Blk. 352, W. M. Mitchell Sur.
S.D. 1,700 ft.

COKE COUNTY

Wm. Hooper's No. 1 Gaston, 240 ft. from S line and 654 ft. from W line of Joseph Sur. No. 11.
U.R. 2,550 ft.

CRANE COUNTY

Brandon et al's No. 1 J. Cowden, 330 ft. from N and 330 ft. from W line of Sec. 13, Blk. X, C.C.S.D.&R.G.N.G. Sur.
Drlg. 2,107 ft.

Gulf Prod. Co.'s No. 1 E. M. Snodgrass, 1,320 ft. from N and 1,320 ft. from W line of Sec. 1, Blk. B-25, P.S.L. Sur.
Drlg. 1,320 ft.

Texas Co.'s No. 25 King, 1,695 ft. from E line, 2,700 ft. from E line, Sec. 35, Blk. 4, C.C.S.D.&R.G.N.G. Sur.
Location.

Wahlenmaier Pet. Corp.'s No. 1 W. P. Edwards, 330 ft. from N and 330 ft. from E of SW cor. of the NE of Sec. 12, Blk. B-23, P.S.L. Sur.
Swbng. 10 to 20 bbls. daily; T.D. 3,720 ft.

CROCKETT COUNTY

J. D. Young's No. 1 Shannon, 330 ft. from W line, 330 ft. from N line of Sec. 35, Blk. 1, G.C.&S.F. Sur.
S.D. 2,625 ft.

CULBERSON COUNTY

Anderson-Pritchard Oil Corp.'s No. 1 Borders, 1,355 ft. N and 2,305 ft. from W, Sec. 34, Blk. 69, P.S.L. Sur.
Drlg. 325 ft.

Miller Bros.' No. 1 fee, 1,900 ft. from N and 660 ft. from E line of Sec. 21, Blk. 97, P.S.L. Sur.
S.D. 1,062 ft.

DAWSON COUNTY

Ray Albaugh et al's No. 1 John Robinson, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 46, Blk. M, E.L.R.R. Sur.
S.D. 2,381 ft.

ECTOR COUNTY

Atlantic Oil & Prod. Co.'s No. 2 Holt, 660 ft. from N line and 1,980 ft. from E line of Sec. 15, Blk. A, P.S.L. Sur.
S.D. 1,150 ft.

Continental Oil Co.'s No. 2 O. B. Holt, 1,980 ft. from S line and 1,980 ft. from W line of Sec. 26, Blk. A, P.S.L. Sur.
Drlg. 3,947 ft.

Continental Oil Co.'s No. 1-A Kloh, 440 ft. from N line and 2,200 ft. from E line, Sec. 3, Blk. 43, Twp. 1s, T.&P. Sur.
Location.

C. J. Davidson et al's No. 1 Cole, 660 ft. from N line and 660 ft. from W line of Sec. 10, Blk. 45, Twp. 1n, T.&P. Sur.
S.D. 4,509 ft.

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COMPLETIONS IN WEST TEXAS

Ector County

Gulf Production Co.'s No. 4 Connell, top pay 3,494-3,700 feet, initial production 128 bbls. in 10 hours, total depth 3,700 feet. Skelly Oil Co.'s No. 1 Con-

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Many Exceptions to Spacing Rule in East Texas; Rusk and Cayuga Areas Monopolizing Interest

By L. E. BREDBERG

DALLAS, Tex., July 30.—Regardless of the Railroad Commission's spacing rule and hearings held in regard to applications for permits to drill tests that are exceptions to this rule, many locations continue to be staked each week in East Texas, locations in many cases being the results of obtaining drilling permits that are exceptions to the rule. There were 76 locations reported this week, but completions fell to 63.

Runs to refineries in the field for the week ending July 26, had increased to 74,545 bbls. per day, or 1,000 bbls. per day more than the previous week. Tank car shipments gained by 344 per day, or running up to 755 per day this week. Runs by trunk lines also gained. This week they averaged 487,560 bbls. per day whereas the previous week they were 485,500 bbls. per day.

The potential of the field as of July 22 was 10,337,145 bbls. per day, gradually gaining as more wells are added. The total number of marginal wells is set at 1,020, each of which is given a daily allowable of 20 bbls., according to present orders of the commission. Gordon Griffin, chief petroleum engineer of the Railroad Commission, recommended that the field be curtailed to around 400,000 bbls. per day.

The new allowable for the field will be figured on the basis of 4 per cent of the hourly potential of the wells, taking effect August 1. This will place the daily allocation at around 399,100 bbls. per day.

The Railroad Commission had its position strengthened during the week when the Third Court of Civil Appeals at Austin affirmed the judgment of the Travis County District Court holding valid the new refinery control bill adopted at the last session of the legislature.

Cherokee County

Wood and others' No. 2 New Birmingham Development Co., a southwest offset to their discovery well, on the same lease in the Levi Jordan Survey, 6 miles southwest of Rusk, in Cherokee County, topped the Pecan Gap chalk at 3,998 feet during the week and has reached the Austin chalk at 4,895 feet, drilling at 4,925 feet. Elevation is 440 feet which places the last marker top at minus 4,485 feet, or around 45 feet lower than topped in the discovery well which logged it at 4,407 feet. No. 2 topped the Pecan Gap at minus 3,558 feet.

Zilkey and McCulloch's No. 1 Bradford in the J. Armendaris Survey, about 10 miles northeast of the Rusk discovery, and in which the Sinclair Prairie Oil Co. is dealing for a half interest, is again drilling after being shut down for lack of water. It is now below 3,950 feet. This test will be watched with interest due to its location in regard to the discovery well, and taking into consideration that is the next test to be completed in this part of the county where production was recently found.

Cayuga Area

There were four wells completed in the Cayuga Field, northwest Anderson County, this week, all by the Tide Water Oil Co. and Texas Seaboard Oil Co., co-discoverers and holders of a large block surrounding their discovery. Their No. 1 Wills (Bowyer) in the M. H. John Survey, north of the discovery, plugged back from a total depth of 4,107 feet to 4,074 feet, after it struck salt water, has been completed as a small producer, still making some salt water. It made 5 bbls. of oil and 1 bbl. of water in five minutes. Location is about 1½ miles north of the discovery.

Same companies' No. 1 Joe Campbell, in the western part of the James Wilson Survey, extended the field about 2 miles south when it came in making 41 bbls. of oil in 24 hours through three-sixteenths inch tubing choke. This is not such a good producer according to the initial performance, and the test just starting on the Sullenberger lands to the southwest, in the William Snider Survey, will be an exceptionally interesting one because of its remote location from the new southern extension.

Of the two most interesting outpost tests, but across the Trinity River in Freestone County, Harwell and others' No. 1 Trinity Farms, in the R. Williamson Survey, cored from 3,945-82 feet, the first part of the core showing hard, tight, silty, porous gray sand which appeared like gas sand but contained no odor or showing of oil or gas. It is now coring. Elevation is 253 feet, which makes bottom of the hole minus 3,627 feet or slightly higher than where No. 2 Edens of the Tide Water Oil Co. and Texas Seaboard Oil Co., approximately 5 miles to the northeast, picked up its first oil sand.

The other outpost test is American Liberty Oil Co.'s No. 1 Trinity Farms, in the G. B. Bonham Survey, about 3½ miles west of the field, and also in Freestone County. It is drilling at 3,950 feet in shale. Elevation is 256 feet.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 Royall and Cone, northern outpost test in the Thomas Bristow Survey, topped the Georgetown lime at 4,555 feet and shut down after drilling to 4,665 feet. It will be plugged back to around 4,000 feet in the Woodbine and given a test. If it does not prove a producer it will mark the first failure of the companies holding the large block. It will also definitely mark the northern limits of the field.

Wildcats

Sun Oil Co.'s No. 1 Erskine, in the S. C. Box Survey, southwest Anderson County, about 11 miles south of the Long Lake Pool, topped the broken Austin chalk at 5,250 feet and drilled into the hard Austin at 5,300 feet. The test is now drilling at 5,400 feet in chalk. Elevation is 202 feet. It topped the Pecan Gap chalk at 4,142 feet.

Another wildcat drilling in Anderson County, topped the Austin chalk at 4,075 feet and is drilling at 4,200 feet in chalk. Elevation is 333 feet. This test is Canadian Oil Co.'s No. 1 Jackson, in the William C. Caldwell Survey, northwest of Palestine.

Byrd and Frost of Dallas, are planning to drill another wildcat near Slocum in south central Anderson County, in the area recently tested by them. Their first test was abandoned, but it had good showings of oil and gas and the operators are of opinion a pool exists. Pure Oil Co., Stanolind Oil & Gas Co., and Gulf Production Co. each hold several leases in the area, and may donate acreage or financial help.

There were no new wildcat locations reported in the East Texas district this week, nor were there any wildcat wells put on the completion report.

Van Field—Van Zandt County

J. D. Wrather and others ran tubing and were preparing to make a test of their second well outside of the Van Field, Van Zandt County. The test is 800 feet east of their No. 1 Carter in the William Daniels Survey, completed about a month ago, extending production a short distance north and east. Total depth of the second test is 3,032 feet.

There was one location and one completion reported in the Van Field.

Cayuga Area—Anderson County

Tide Water and Texas Seaboard Oil companies' No. 1 Campbell, top Pecan Gap 2,150 feet; base Pecan Gap 2,453 feet; top Austin chalk 3,127 feet; base 2,528 feet; top Woodbine sand 3,770 feet; top oil sand 4,022 feet, initial production 41 bbls. in 24 hours through three-sixteenths inch tubing choke, total depth 4,048 feet; No. 3 Edens, top gas sand 3,870 feet; top Woodbine sand 3,890 feet; top oil sand 4,078 feet, initial production 105 bbls. in 24 hours through one-eighth inch tubing choke, total depth 4,087 feet; No. 4 Edens, top Woodbine sand 3,829 feet; top oil sand 4,059 feet; initial production 180 bbls. in 22 hours through three-sixteenths inch tubing choke, total depth 4,065 feet; No. 1-B Wills, top Woodbine sand 4,054 feet, initial production 5 bbls. of oil and 1 bbl. of salt water in five minutes, total depth 4,107 feet. Plugged back to 4,074 feet.

EAST TEXAS DISTRICT

North Gregg County

Arkansas Fuel Oil Co.'s No. 27 Burnside, top sand 3,477 feet, initial production 42 bbls. in one-quarter hour through open tubing, total depth 3,502 feet. Atlantic Oil Producing Co.'s No. 57 J. Moore, top sand 3,531 feet, initial production 20 bbls. per hour through open tubing, total depth 3,587 feet. Faith Oil Corp.'s No. 11 J. C. Barrett, top sand 3,662 feet, initial production 60 bbls. per hour through open tubing, total depth 3,683 feet. Cox and Hamon's No. 12 fee, top sand 3,532 feet, initial production 120 bbls. per hour through open tubing, total depth 3,587 feet. Gilcrease Oil Co.'s No. 5 Christian, top sand 3,562 feet, initial production 100 bbls. in 40 minutes through open tubing, total depth 3,624 feet. Gulf Production Corp.'s No. 4 Callum, top sand 3,535 feet, initial production 60 bbls. in one-half hour through open tubing, total depth 3,552 feet; No. 9 A. Neely, top sand 3,500 feet, initial production 45 bbls. per hour through open tubing, total depth 3,530 feet. George Culver's No. 1 Wood, top sand 3,597 feet, initial production 85 bbls. per hour through open tubing, total depth 3,626 feet.

Humble Oil & Refining Co.'s No. 4 J. M. Adams, top sand 3,458 feet, initial production 21 bbls. in one-quarter hour through open tubing, total depth 3,487 feet; No. 31 W. K. Hughes, top sand 3,620 feet, initial production 75 bbls. per hour through open tubing, total depth 3,637 feet. T. D. Humphrey's No. 1 Dunbar, top sand 3,559 feet, initial production 15 bbls. per hour through open tubing, total depth 3,587 feet. Iowa-Payne Oil Co.'s No. 5 J. W. Akin, top sand 3,507 feet, initial production 80 bbls. in one-half hour through open tubing, total depth 3,590 feet. Island Oil Co.'s No. 6 J. W. Akin, top sand 3,518 feet, initial production 67 bbls. per hour through open tubing, total depth 3,565 feet. Magnolia Petroleum Co.'s No. 9 Todd-Stinchcomb, top sand 3,562 feet, initial production 109 bbls. per hour through open tubing, total depth 3,587 feet. Margay Oil Corp.'s No. 7 Corbin, top sand 3,545 feet, initial production 70 bbls. in one-half hour through open tubing, total depth 3,560 feet. Sinclair Prairie Oil Co.'s No. 6 York, top sand 3,582 feet,

East Central Texas Wildcats

Week Ending July 30

ANDERSON COUNTY

Barnsdall Oil Co.'s No. 1 Loper, 467 ft. from N and W lines of 40-ac. tract, 1 mile SW of Cayuga, James Wilson Sur.
Drlg. 3,750 ft.

Canadian Production Co.'s No. 1 R. M. Jackson, 1,250 ft. from NE cor. and 3,058 ft. from SE cor. of survey and tract, W. C. Caldwell Sur.
Drlg. 2,350 ft.

H. L. Hunt's No. 1 C. A. Miller, 1,120 ft. from SE line and 1,120 ft. from SW line of 196.6-ac. tract, 1 mile S of Tucker, S. Sanches Sur. No. 2-10.
Drlg. 300 ft.

J. A. Johnson et al's No. 1 Mrs. N. B. Huffman, 1,650 ft. from W line and 2,700 ft. from S line of survey, 10 miles NW of Palestine, R. S. Patton Sur.
Rig up.

Stanolind Oil & Gas Co.'s No. 1 Loper, 483 ft. S and 466 ft. E of NW cor. of 40-ac. tract, James Wilson Sur.
Location.

Sun Oil Co.'s No. 1 Erskine, 200 ft. from S line of survey and 3,000 ft. from Trinity River, Samuel C. Box Sur., SW part of county.
Drlg. 4,390 ft.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 Royal and Cone, 467 ft. from S line and 1,533 ft. from E line of 92-ac. tract, Thomas Bristow Sur.
Drlg. 4,632 ft.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 2 Robertson, 633 ft. from W line and 467 ft. from N line of lease, Samuel Snider Sur.
Derrick.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1-C N. N. Wills, 477 ft. from S line and 467 feet from W line of tract, Thomas Bristow Sur.
Location.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 V. W. Bowyer, 467 ft. from E line and 1,240 ft. from S line of 300-ac. tract, M. H. Johns Sur.
Drlg. 3,304 ft.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 6 Edens, 419 ft. from N line, 1,400 ft. from E line of lease, S. Snyder Sur.
Rig up.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 Rampy, 1,256 ft. from N line and 1,375 ft. from E line of 153.66-ac. lease, J. Wilson Sur.
Drlg. 1,679 ft.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 2 Robertson, 633 ft. from W line of tract and 467 ft. from N line of lease, S. Edmondson Sur.
Derrick.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 M. H. Sullenberger, 1,541 ft. S of most northerly N line and 1,400 ft. W of most easterly E line of lease, Wm. Snyder Sur.
Drlg. 642 ft.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 7-A N. W. Willis, 2,277 ft. from N line and 5,467 ft. from W line of lease, S. Edmondson Sur.
Location.

CHEROKEE COUNTY

Gholson et al's No. 1 Southern Pine Lumber Co., 330 ft. out of NW cor. of 80-ac. tract, N. Newton Sur.
Moving in.

H. L. Hunt Production Co.'s No. 1 Powell Lumber Co., 467 ft. from S and W lines of 52-ac. tract, 1 mile E and one-quarter mile N of discovery well, D. W. McNab Sur.
Location.

(Continued on Page 52)

initial production 30 bbls. in one-quarter hour through open tubing, total depth 3,597 feet; No. 7 York, top sand 3,570 feet, initial production 28 bbls. in one-quarter hour through open tubing, total depth 3,580 feet. H. R. Smith's No. 8 Bauknight, top sand 3,579 feet, initial production 45 bbls. in 40 minutes through open tubing, total depth 3,612 feet. Yount Lee Oil Co.'s No. 4-E McKinley, top sand 3,584 feet, initial production 27 bbls. in one-half hour through open tubing, total depth 3,606 feet.

South Rusk County

Cal-Texas Oil Co.'s No. 8 L. D. Crim, top sand 3,554 feet, initial production 90 bbls. per hour through open tubing, total depth 3,564 feet. I. E. Doddwell's No. 1 Alexander, top sand 3,525 feet, initial production 41 bbls. per hour through open tubing, total depth 3,582 feet. Gulf Production Co.'s No. 26-C Brown, top sand 3,480 feet, initial production 30 bbls. in one-half hour through open tubing, total depth 3,505 feet; No. 8 M. Charles, top sand 3,595 feet, initial production 77 bbls. per hour through open tubing, total depth 3,605 feet; No. 7 Nickols, top sand 3,675 feet, initial production 20 bbls. in 20 minutes through open tubing, total depth 3,683 feet. Humble Oil & Refining Co.'s No. 54-B S. Laird, top sand 3,574 feet, initial production 75 bbls. per hour through open tubing, total depth 3,640 feet.

E. M. Jones' No. 2 L. D. Crim, top sand 3,529 feet, initial production 84 bbls. per hour through open tubing, total depth 3,555 feet. C. H. Lyons' No. 2 I. Rechard, top sand 3,490 feet, initial production 20 bbls. in 10 minutes through open tubing, total depth 3,607 feet. National Oil Co.'s No. 3 L. Martin, top sand 3,697 feet, initial production 85 bbls. per hour through open tubing, total depth 3,704 feet. Shell Petroleum Corp.'s No. 23 W. W. Elder, top sand 3,534 feet, initial production 32 bbls. in one-half hour through open tubing, total depth 3,611 feet.

(North) Rusk County

J. Berren and others' No. 3 Major Kennedy, top sand 3,645 feet, initial production 15 bbls. in one-half hour through open tubing, total depth 3,697 feet. Devonian & Gulf Production Co.'s No. 28 R. A. Motley, top sand 3,769 feet, initial production 20 bbls. in 20 minutes through open tubing, total depth 3,772 feet. Gulf Production Co.'s No. 10 C. E. Christian, top sand 3,703 feet, initial production 60 bbls. per hour through open tubing, total depth 3,718 feet. Gulf Production Co.'s No. 16-A C. E. Christian, top sand 3,583 feet, initital production 22 bbls. in one-fourth hour through open tubing, total depth 3,700 feet. Magnolia Petroleum Co.'s No. 10 D. Crim, top sand 3,615 feet, initial production 18 bbls. in one-fourth hour through open tubing, total depth 3,640 feet. Dearing & Son's No. 8 A. P. Finney, top sand 3,560 feet, initial production 30 bbls. in 40 minutes through open tubing, total depth 3,620 feet. Gant Garvin & Wegner's No. 3 Hale, top sand 3,534 feet, initial production 20 bbls. per hour through tubing choke, total depth 3,610 feet.

Humble Oil & Refining Co.'s No. 25 J. M. Turner, top sand 3,630 feet, initial production 45 bbls. per hour through open tubing, total depth 3,749 feet. Gulf Production Co.'s No. 4 Walter Shaw, top sand 3,717 feet, initial production 30 bbls. per hour through open tubing, total depth 3,726 feet. Humble Oil & Refining Co.'s No. 5-A Wilson, top sand 3,676 feet, initial production 81 bbls. per hour through open tubing, total depth 3,696 feet. Hunt Production Co.'s No. 10 V. E. Reid, top sand 3,620 feet, initial production 25 bbls. per hour through open tubing, total depth 3,670 feet.

Mid-Kansas Oil & Gas Co.'s No. 19 Burton, top sand 3,619 feet, initial production 82 bbls. per hour through open tubing, total depth 3,664 feet. Miller Production Co.'s No. 2 Bradford, top sand 3,531 feet, initial production 40 bbls. per hour through open tubing, total depth 3,630 feet. Northrup and others' No. 2 Ras Redwine, top sand 3,529 feet, initial production 40 bbls. per hour through open tubing, total depth 3,580 feet. Octo Oil Co.'s No. 4-A W. H. Frederick, top sand 3,535 feet, initial production 20 bbls. in 2 hours, total depth 3,671 feet. Pinkston and others' No. 2 Pinkston, top sand 3,534 feet, initial production 32 bbls. per hour through open tubing, total depth 3,591 feet. Stanolind and Pure Oil Co.'s No. 26 R. A. Morer, top sand 3,618 feet, initial production 10 bbls. per hour through open tubing, total depth 3,620 feet. Sun Oil Co.'s No. 10 R. J. Hendon, top sand 3,548 feet, initial production 20 bbls. per day swabbing, total depth 3,598 feet. Texas Co.'s No. 10 Kirsch, top sand 3,630 feet, initial production 60 bbls. per hour through open tubing, total depth 3,633 feet.

Smith County

Humble Oil & Refining Co.'s No. 11 Thompson, top sand 3,635 feet, initial production 102 bbls. per hour through open tubing, total depth 3,641 feet. Alex McCutcheon's No. 2 Whitmeyer, top sand 3,767 feet, initial production 75 bbls. per hour through open tubing, total depth 3,771 feet. M. H. McMurray's No. 8 G. A. Turner, top sand 3,800 feet, initial production 75 bbls. per hour through open tubing, total depth 3,802 feet. John Owen's No. 2 Wright, top sand 3,659 feet, initial production 90 bbls. per hour through open tubing, total depth 3,679 feet. L. Sneed's No. 6 Salem Church, top sand 3,752 feet, initial production 90 bbls. per hour through open tubing, total depth 3,779 feet. Sun Oil Co.'s No. 7-A J. J. Denton, top sand 3,721 feet, initial production 12 bbls. per hour through one-quarter inch tubing choke, total depth 3,725 feet. Sutton and Hawkins' No. 5 M. E. Church, top sand 3,794 feet, initial production 25 bbls. in one-quarter hour through open tubing, total depth 3,796 feet.

Van Pool—Van Zandt County

Shell Petroleum Corp.'s No. 4 B. M. Fowler, initial production 49 bbls. first 24-hour gauge, choked for proration, total depth 2,951 feet.

Upshur County

H. W. Black's No. 3 Burrough, top sand 3,706 feet, initial production 40 bbls. in one-half hour through open tubing, total depth 3,710 feet. Conservative Oil Co.'s No. 12 Victory, top sand 3,661 feet, initial production 75 bbls. per hour through open tubing, total depth 3,687 feet. Humble Oil & Refining Co.'s No. 8 A. O. Phillips, top sand 3,677 feet, initial production 86 bbls. per hour through open tubing, total depth 3,695 feet; No. 24 I. D. Smith, top sand 3,630 feet, initial production 65 bbls. per hour through open tubing, total depth 3,647 feet. B. F. Phillips' No. 4-B L. P. League, top sand 3,641 feet, initial production 62 bbls. per hour through open tubing, total depth 3,650 feet.

Repressuring Project in Red River Field

(Continued from Page 10)

above the packer by routing the gas through the casing outside the tubing, but no gas was applied to the upper sands until later. The excellent results obtained by the use of this well encouraged the drilling of more injection wells. In all, 10 additional wells were drilled, and the results were very satisfactory.

Back Pressure Increased

It was early decided to make every effort to raise the fluid levels in the producing wells to a point above the sand body and control gas production and back pressure by the height of the existing fluid column. This could not be accomplished, however, due evidently to the lack of any hydrostatic pressure and the presence of a "thief" sand above the producing sand. As it was essential to control the gas production from the producing wells to avoid channeling and accomplish a uniform distribution of the gas throughout the sand, individual back pressure controls were installed where necessary and the results were very satisfactory.

Back pressures were gradually raised, and it was noted that although an increase in back pressure caused a temporary drop in oil and gas production, the production level would rise in a short time to a point above that existing previous to the increase in back pressure. This would indicate that an increase in reservoir or sand pressure was very beneficial.

An interesting result of the increase in back pressures was the drop in gasoline content of the gas produced from 8 to 3½ gallons per thousand feet, and the increase in gravity of the oil from an average of 39 to 42 degrees A.P.I. It is evident that the increase in formation pressures caused the retention of the lighter fractions by the crude, a condition much to be desired.

As a result of the increase in gravity of the oil, and an increase in the amount of gas in suspension in the oil, some trouble was encountered. The agitation of the oil in the tubing by the pumping equipment would result in the oil flowing from the tubing and lead lines. During the time required for the tubing to fill again the stuffing boxes would overheat and fail to hold during the following period of pumping or flowing. A change of stuffing box design corrected the trouble by lubricating the packing.

Experiments were made at various times and under various conditions to determine the advisability of using air or air and gas mixtures as a repressuring medium. Even small percentages of air show decided increases in operating difficulties, and it is the writer's conviction that wherever possible gas should be used.

The repressuring program was gradually advanced until in December, 1930, an average daily production of 1,570 bbls. was reached as compared with an average in May, 1929, of 980 bbls. This in spite of the fact that the vacuum had been removed from the field and back pressure applied.

Oil price changes during the months following caused the repressuring program to be discontinued on March 6, 1931, and contracts to be canceled. Later, a new repressuring organization was formed and, with the improvement in crude prices, a recycling plan was constructed and placed in operation. Repressuring was resumed and is still being practiced, but on a slightly reduced scale.

The fact that the field has already produced more than the estimated ultimate recovery by normal means and is still making more than 800 bbls. daily under reduced injection volumes will give an idea of what the repressuring program has accomplished.

Conclusions

Repressuring should be seriously considered as a means of increasing the ultimate yield from pools where application is practical. It should not be considered an experiment, but rather a modern method of increasing production efficiency.

A careful preliminary survey by a capable and experienced engineer and competent supervision is essential.

The importance of the use of gas as a repressuring medium rather than air can not be over emphasized.

The supply of gas originally existing in a field should be conserved as much as possible. Starting the repressuring operations early in the life of a field will lower the total cost of the operations considerably, as the cost of gas is a major item of expense. Maintaining the pressure on the producing horizon will greatly increase total recovery.

Unit operation offers great possibilities and it is hoped that in the near future its value will be more generally recognized.

	Barrels
Total production—May, 1929, to April, 1934	1,619,250
Estimated production (normal methods), May, 1929, to April, 1934	821,550
Gain due to repressuring	797,000
Cost of recycling plant, lines and special equipment	$18,500
Cost of gas injection wells	70,000
Increase in capital investment	$88,500
Operating costs, repressuring only, June, 1934:	
Gas purchases	$1,386
Labor	350
Other items	400
Total	$2,136
Cost per barrel of repressuring operations, in addition to regular lifting costs	$0.088

No allowance made in above for 2,500,000 feet of gas added to reserve supply in field.

Acknowledgments

I wish to take this opportunity to express my appreciation to T. L. Coleman and his associates in the U. S. Geological Survey for their assistance and cooperation, and to the producers and others in the Riverbed area who have done so much to make this project a success.

Administrator's Report on Crude Stocks

Stocks of domestic and foreign crude petroleum at the close of the week ended July 21 totaled 342,611,000 bbls., a decrease of 1,576,000 bbls. from the total of 344,187,000 bbls. on hand at the end of the preceding week, Harold L. Ickes, Secretary of the Interior and Administrator of the code of fair competition for the petroleum industry, announced today. This decrease, which followed a gain of 95,000 bbls. during the previous week, comprised a decrease of 1,664,000 bbls. in stocks of domestic crude and an increase of 88,000 bbls. in foreign crude stocks.

Current reports of the industry for the week ended July 21, in comparison with those for the previous week, indicate a moderate increase in crude runs to stills, a slight decrease in crude oil production, and a material decline in crude imports. The indicated balance of crude oil for the week ended July 21 was as follows (barrels): Production, 2,660,000; imports, 43,000; decline in stocks, 225,000, equals runs to stills, 2,590,000, exports, losses, etc., 338,000.

CRUDE PETROLEUM STOCKS REPORTED BY COMPANIES HOLDING 100,000 BBLS. OR MORE

	Stocks held by reporting companies		Change from
Grade of crude oil—	July 14, 1934 (bbls.)	July 21, 1934 (bbls.)	July 14, 1934 (bbls.)
Pennsylvania Grade	4,619,000	4,676,000	+57,000
Other Appalachian, including Kentucky	1,255,000	1,225,000	—30,000
Lima-Northeast Indiana-Michigan	1,478,000	1,471,000	—7,000
Illinois-Southwest Indiana	11,331,000	11,362,000	+31,000
North Louisiana and Arkansas	10,692,000	10,665,000	—27,000
West Texas and Southeast New Mexico	29,576,000	29,151,000	—425,000
East Texas	40,866,000	39,802,000	—1,064,000
Other Mid-Continent	161,367,000	160,815,000	—552,000
Gulf Coast	17,628,000	17,704,000	+76,000
Rocky Mountain	27,864,000	27,816,000	—48,000
California	33,823,000	34,153,000	+325,000
Total domestic crude	340,504,000	338,840,000	—1,664,000
Foreign crude	3,683,000	3,771,000	+88,000
Total crude	344,187,000	342,611,000	—1,576,000

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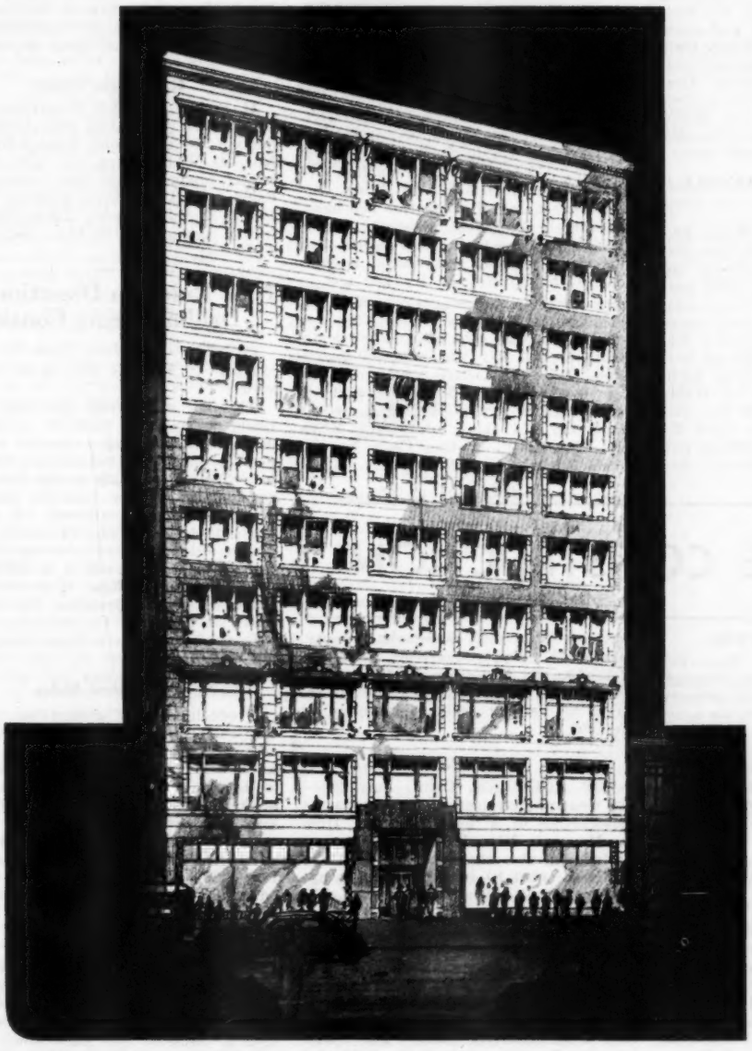

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West Texas Fields

(Continued from Page 46)

nell, top pay 3,445-3,653 feet, initial production 254 bbls., total depth 3,653 feet. York-Harper and others' No. 1 Bates, dry and abandoned, total depth 4,518 feet.

Howard County

Southern Oil Co.'s No. 1 Frazier, dry and abandoned, total depth 3,504 feet.

Pecos County

Mid-Kansas Oil & Gas Co.'s No. 35-B Yates, top pay 1,225-1,450 feet, initial production 3,371 bbls. per hour, total depth 1,450 feet.

Winkler County

Sid Richardson's No. 1-D Shell Llano-Scarborough, top pay 2,928-3,030 feet, initial production 203 bbls. in two hours, total depth 3,303 feet.

COMPLETIONS IN NORTH TEXAS

Archer County

Alcorn and Atlantic Oil Producing Co.'s No. 3 Justice, lime 1,066-84 feet, initial production 150 bbls., total depth 1,084 feet. Bridwell Oil Co.'s No. 7-C Falls County, lime 1,118-24 feet, initial production 75 bbls., total depth 1,124 feet. Continental Oil Co.'s No. 3 Ward, dry and abandoned, total depth 1,079 feet. Barney Cockburn's No. 1 Hayter, dry and abandoned, total depth 1,450 feet. Fain and McGaha's No. 15 Green, lime 1,168-88 feet, initial production 150 bbls., total depth 1,188 feet. Fain & McGaha and Humble Oil & Refining Co.'s No. 41 Logan, lime 1,126-42 feet, initial production 300 bbls., total depth 1,142 feet; No. 42 Logan, lime 1,168-76 feet, initial production 50 bbls., total depth 1,176 feet. McCarthy Oil Co.'s No. 2-B Wilson, dry and abandoned, total depth 1,450 feet. Grace and others' No. 4 Andrews, oil sand 964-74 feet, initial production 30 bbls., total depth 974 feet.

L. F. Hooker and others' No. 3 Justice, lime 1,088-1,103 feet, initial production 50 bbls., total depth 1,103 feet. Justice Oil Co.'s No. 5 Justice, lime 1,067-78 feet, initial production 250 bbls., total depth 1,078 feet. McCarthy Oil Co.'s No. 1-B Wilson, dry and abandoned, total depth 2,501 feet. Pois and Schultz' No. 29 Green, lime 1,135-53 feet, initial production 450 bbls., total depth 1,153 feet. Seitz, Comegys and Seitz' No. 2 Prideaux, lime 682-92 feet, initial production 2 bbls., total depth 692 feet. Staniforth and Ray's No. 2 Perkins, oil sand 1,605-13 feet, initial production 250 bbls., total depth 1,613 feet. Texas Co. and Consolidated Oil Co.'s No. 6 Coody, lime 1,155-61 feet, initial production 32 bbls., total depth 1,161 feet. S. R. Threlkil's No. 1 Kunkel, dry and abandoned, total depth 605 feet.

Clay County

Texas Co.'s No. 2 George, oil sand 1,131-33 feet, initial production 60 bbls., total depth 1,133 feet.

Jack County

Hart and Howell's No. 1 Craig, dry and abandoned, total depth 650 feet. Herbert Oil Co.'s No. 1 Moore, dry and abandoned, total depth 3,190 feet.

Montague County

Dyer and others' No. 1 Bybee, dry and abandoned, total depth 903 feet. Seitz Brothers and others' No. 1 LeFlore, dry and abandoned, total depth 2,092 feet.

Wichita County

Texas Plains Oil Co.'s No. 3-C Waggoner, dry and abandoned, total depth 780 feet. Regal Oil Co.'s No. 1 Munger, dry and abandoned, total depth 3,043 feet.

Wilbarger County

Atlantic Oil Producing Co.'s No. 17 Lido-Waggoner, sandy lime 2,718-24 feet, initial production 25 bbls., total depth 2,724 feet. Consolidated Oil Co.'s No. 7-T Waggoner, oil sand 1,862-88 feet, initial production 300 bbls., total depth 1,888 feet; No. 1-Y W. T. Waggoner, dry and abandoned, total depth 2,407 feet. Hegralle Oil Co.'s No. 5-A W. T. Waggoner, oil sand 1,880-97 feet, initial production 329 bbls., total depth 1,897 feet; No. 8-A W. T. Waggoner, oil sand 1,883-91 feet, initial production 300 bbls., total depth 1,891 feet. Phillips Petroleum Co.'s No. 1-N W. T. Waggoner, lime 2,563-75 feet, initial production 12 bbls. of oil and 4 bbls. of water, total depth 2,575 feet. Mell Richards' No. 1B W. T. Waggoner, dry and abandoned, total depth 1,102 feet. Staley and Wynne's No. 9-G W. T. Waggoner, oil sand 2,367-70 feet, initial production 125 bbls., total depth 2,370 feet.

Young County

Compton and others' No. 1 Jeffery, dry and abandoned, total depth 925 feet. O. Graves' No. 1 Yates, dry and abandoned, total depth 525 feet. Hunt and Thomas' No. 4 Myers, oil sand 1,038-45 feet, initial production 50 bbls., total depth 1,045 feet. Nash and Windfohr's No. 13 Graham-Vick, oil sand 2,590-96 feet, initial production 200 bbls., total depth 2,596 feet. Rathke Oil Co.'s No. 1 Graham, dry and abandoned, total depth 982 feet. Leo Sellers' No. 1 Finch, dry and abandoned, total depth 750 feet. Texas Co.'s No. 1 Craine, dry and abandoned, total depth 1,078 feet; No. 1 Belknap Coal Co., oil sand 657-61 feet, initial production 50 bbls., total depth 661 feet. Wainwright and Keith's No. 1 Rushing, dry and abandoned, total depth 1,102 feet.

COMPLETIONS IN PANHANDLE

Gray County

Combined Oil Co.'s No. 2 Webb, pay 2,565-2,600 feet, initial production 250 bbls., total depth 2,635 feet. Foster Oil Co.'s No. 2 Webb, total depth 2,725 feet, plugged back to 2,625 feet, initial production 2,500,000 feet of gas, total depth 2,725 feet. Shell Petroleum Corp.'s No. 2 Finley, shot 120 quarts 3,035-95 feet, initial production 257 bbls., total depth 3,098 feet. Skelly Oil Co.'s No. 7-A Webb, pay 2,455-58 feet and 2,355-60 feet, initial production 60 bbls., total depth 2,507 feet. Texas Co.'s No. 7 Davis, pay 2,739-2,825 feet, initial production 1,835 bbls., total depth 2,830 feet; No. 3 Short, shot 160 quarts 2,850-2,914 feet, initial production 194 bbls., total depth 3,033 feet. British-American Oil Co.'s No. 7 Phillips, shot 105 quarts 3,212-72 feet, initial production 213 bbls., total depth 3,272 feet. Champlin Refining Co.'s No. 7 McLaughlin, pay 2,906-3,120 feet, initial production 250 bbls., total depth 3,120 feet. Continental Oil Co.'s No. 8 Finley-Brown, pay 2,895-3,002 feet, initial production 140 bbls., total depth 3,051 feet.

Empire Gas & Fuel Oil Co.'s No. 2 Culler, pay 3,150-3,300 feet, initial production 218 bbls., total depth 3,310 feet. Humble Oil & Refining Co.'s No. 7 Jackson, pay 2,930-48 feet, initial production 200 bbls., total depth 3,040 feet. Indian Territory Illuminating Oil Co.'s No. 4 Smith, shot 380 quarts 3,182-3,248 feet, initial production 595 bbls., total depth 3,248 feet. Magnolia Petroleum Co.'s No. 1 E. Haggard, shot 210 quarts 3,220-95 feet, initial production 208 bbls., total depth 3,309 feet; No. 2 Heaston, shot 90 quarts 3,177-3,204 feet, initial production 112 bbls., total depth 3,308 feet; No. 3 Heaston, pay 3,160-84 feet, initial production 260 bbls., total depth 3,184 feet. Phillips Petroleum Co.'s No. 6 Combs-Worley, total depth 2,975 feet, plugged back to 2,970 feet, initial production 393 bbls. Skelly Oil Co.'s No. 15 Vicars, pay 3,230-58 feet, initial production 283 bbls., total depth 3,293 feet. Southern Petroleum Exploration Co.'s No. 4 Baird, shot 150 quarts 3,200-40 feet, initial production 197 bbls., total depth 3,250 feet.

Stanolind Oil & Gas Co.'s No. 1-B Cobb, shot 200 quarts 3,265-3,330 feet, initial production 220 bbls., total depth 3,330 feet; No. 4-C Cobb, shot 300 quarts 3,190-3,315 feet, initial production 264 bbls., total depth 3,315 feet. Texas Co.'s No. 9 Wright, pay 2,770-90 feet, initial production 114 bbls., total depth 2,865 feet. Wilcox Oil & Gas Co.'s No. 28 Combs-Worley, pay 2,905-22 feet, initial production 1,430 bbls., total depth 2,932 feet.

Wheeler County

Skelly Oil Co.'s No. 2 Derrick, pay 2,439-2,530 feet, initial production 624 bbls., total depth 2,545 feet. Bell Oil & Gas Co.'s No. 5 D'Spain, location abandoned. Champlin Refining Co.'s No. 1 Williams, pay 2,445-55 feet, initial production 1,135 bbls., total depth 2,525 feet. Christie and Hickman's No. 1 D'Spain, total depth 2,481 feet, plugged back to 2,458 feet, pay 2,440-58 feet, initial production 1,090 bbls. Johnson and Harvey's No. 1 Harvey, pay 1,424-68 feet, initial production 80,000,000 feet of gas, total depth 1,468 feet. Mid-Kansas Oil & Gas Co.'s No. 2 Huselby, shot 160 quarts 2,481-2,520 feet, initial production 80 bbls., total depth 2,548 feet. Ohio Fuel Oil Co.'s No. 1 D'Spain, pay 2,483-2,532 feet, initial production 1,462 bbls., total depth 2,532 feet. Piney Oil & Gas Co.'s No. 1 Mineral Investment Co., gas sand 2,070-2,207 feet, initial production 70,000,000 feet of gas, total depth 2,207 feet.

Hutchinson County

H. Stekoll's No. 3-E Whittenburg, shot 170 quarts 2,990-3,035 feet, initial production 100 bbls., total depth 3,035 feet; No. 1-G Whittenburg, pay 3,037-60 feet, initial production 35 bbls., total depth 3,086 feet. Tripplehorn Brothers' No. 2 Ware, shot 300 quarts 2,996-3,096 feet, initial production 180 bbls., total depth 3,170 feet.

New Rules on Directional Drilling Being Considered

(Continued from Page 11)

started at Barbers Hill with that in view.

This not only brings into play intentional deflection of wells but in cases of domes with overhangs extending well out over the underlying formations, the angle of deflection probably would have to be considerably greater than the maximum of 5 degrees now allowed. A greater angle of deflection also is needed in numerous other cases in salt dome development because generally it is difficult to determine the position of a well on a dome until it approaches the level it must go, and then the deviation of the hole must be sharp to place the bottom where desired.

Sidetracked Holes

Producing sands around salt domes, particularly the piercement type, are extremely lenticular and broken up, and it is possible, and frequently happens, that wells within 50 feet of each other find entirely different sands and while one may produce the other may be dry. Under such conditions, a Gulf Coast operator, after getting a dry hole in one test, may drill several sidetracked, or deflected holes, off the first test in an effort to find some productive sand or horizon which possibly was not found in the original hole.

In the working over of old wells or drilling them deeper to lower horizons, it is necessary in most cases to whipstock out, sidetrack the old hole and drill a deflected hole back down either to the same sand or a lower sand, and often there must be a substantial angle of deviation. Under such circumstances, it is claimed, restrictions gainst intentional deflection of wells off vertical might force operators to drill entirely new wells instead of working over old wells, which compared with the cost of working over old wells would be very large.

Gulf Coast operators are expecting to hold several conferences this week to discuss the various phases of the situation and will work out a set of counter-regulations to be presented to and considered by the Railroad Commission in preparing a permanent order. As a whole, these operators favor restrictions in the drilling of wells, but are desirous of having emodied in any order against intentional deflection of wells provisions for exceptions to take care of unusual conditions faced by operators in certain fields.

PIPE LINE CONSTRUCTION

PIPE LINE COMPLETED

COUTTS, Alberta, July 28.—Deliveries of crude are now coming through by pipe line to the Maple Leaf refinery here from the Cut Bank Field, as a result of the completion of the new International pipe line from the Cut Bank Field to Sunburst, a distance of 30 miles. Cut Bank crude is run through this line to Sunburst and thence through the Illinois Pipe Line Co.'s line to Coutts. The new line was completed 20 days after the contractor broke ground. It takes about 5,000 bbls. to fill the line.

MICHIGAN GAS LINE

MUSKEGON, Mich., July 30.—Survey of a definite route for the proposed 55-mile, $500,000 natural gas pipe line from the Austin Township, Mecosta County, Pool to Muskegon was started last week for the American-Michigan Pipe Line Co. under the direction of E. L. Fischer, of Davenport, Iowa, United Light & Power Co. engineer, in charge.

Official approval of the application for a certificate of public necessity and conveniences and of the proposed schedule of natural gas rates to be charged by the Muskegon Gas Co., distributing unit in Muskegon and Muskegon Heights, also was received last week from the Michigan Public Utilities Commission.

Construction will not start, however, until Taggart Brothers, Inc., of Big Rapids, have fulfilled their contract to bring in another gas well in the Mecosta Field making at least 4,000,000 feet a day open flow from the Michigan sands at no greater depth than in the discovery well.

The two Muskegon companies have prior rights on at least 14,000,000 feet of reserves not yet entirely proved. Two wildcat gassers recently completed in Hinton Township, Mecosta County, and Belvidere Township, Montcalm County, 10 and 15 miles, respectively, southeast of the Austin Township Pool, however, indicate the probability of sufficient reserves to warrant early construction of the line.

NEW CALIFORNIA LINE

LOS ANGELES, Calif., July 28.—The General Petroleum Corp. has started construction of a new pipe line from the Mountain View Field to Rose pump station and this should be in operation within the next 10 days. The line is approximately 12 miles in length and will be a 6-inch welded job extending from the field to the company's main 10-inch trunk line which extends from the San Joaquin Valley to Los Angeles. This is the third pipe line to be laid out of the Mountain View Field during 1934 although in each case the lines from the field were relatively short. The Union laid the first line out of the field and its installation runs from the extreme eastern end of the producing area to Bakersfield a distance of about 15 miles. The Standard Oil Co. completed its short pipe line out of Mountain View about 30 days ago. The Mohawk Oil Co. has also laid a short gathering line but this does not hook into any main trunk system.

YOUNG COUNTY LINE

FORT WORTH, Tex., July 30.—Nash and Windfohr, of Graham, are planning to lay 10 miles of 4-inch line from their No. 1 Atwell, in south Young County to the shallow oil-producing Loving area to deliver gas for repressuring wells in the latter area. The gas is to be sold for 14 cents per 1,000 feet for this work. The same operators may also lay a line to connect with the town of Loving, to supply same with gas for domestic purposes.

Qualifications of Steels in Refinery Equipment

(Continued from Page 19)

impact tests before and after the creep tests. Creep strength is only one of the prerequisites for high temperature service and even though a material possesses very good resistance to creep, great care should nevertheless be exercised in its use if marked differences are to be expected in the other properties of the steel before and after exposure to high temperatures.

Corrosion and Oxidation

In addition to the properties previously mentioned, the corrosion and oxidation resistance of the steel may be of considerable importance. Corrosion resistance is often the first requirement that must be satisfied in the selection of a steel for high temperature service. It is usually difficult to predict from accelerated corrosion tests conducted in the laboratory the manner in which a steel may later respond to chemical attack in service. The reason laboratory test results have not been dependable is that the nature of the corrosion either is not or cannot be reproduced. More reliable laboratory testing will consist in simulating service conditions more closely. The problem is still difficult because all the real corrodents encountered in service are seldom known. The raw materials for industrial chemical processes are never pure substances, and experience has shown that quite small quantities of some impurities will activate the corrosion. In the end, if elaborate precautions are to be taken with the laboratory tests, and they are run for a reasonably long period, the corrosion studies might just as well be made on an experimental scale in an actual commercial installation.

A relative measure of the oxidation resistance may be obtained through laboratory tests. Ordinarily, comparative tests of different steels are made by simply heating weighed samples in air and recording the loss in weight due to scaling. The tests are conducted as nearly as possible in accordance with the operating conditions with respect to temperature and heating. Continuous heating is less damaging than intermittent heating from the standpoint of scale loss. The oxide layer that forms during the heating would serve as an excellent protection for the steel against further oxidation, if the covering remained unbroken. When the steel is cooled, however, the scale may flake off leaving fresh surfaces exposed. The repetition of the heating and cooling, accompanied by the formation and flaking of the scale, accounts for the large metal loss of steel parts exposed to oxidizing furnace atmospheres. The character of the scale is virtually governed by the chemical composition of the steel. The amount of scale formed in any particular circumstances, and the adhesion of the oxide to the metal, are dependent upon the analysis of the material. Certain alloying additions retard scaling by producing a dense tightly adhering oxide coating, others increase the free-scaling by causing the oxide to crack off the surface more easily. The oxidation resistance of steels should not be considered apart from the matters of furnace design and the combustion of fuel.

Summary of Results

On the basis of the preceding discussion, it is evident that great care must be exercised in the selection of steels for high temperature service. Before a steel may be most successfully used, it is essential that its mechanical properties, as obtained from short time tensile, creep and impact tests, be known. Morever, the structural stability of the metal when exposed to heating under stress for long periods of time should be determined. As previously stated, this can be accomplished through metallographic examination, tensile and impact tests on the material before and after the creep tests. And, finally, the material must possess sufficient corrosion and oxidation resistance to enable it to withstand the given operating conditions to the desired degree.

W. W. Dunlap Is Named Director of Publicity

OIL CITY, Pa., July 30.—Wes W. Dunlap, head of the publicity department at Pennsylvania State College for the past seven years, has been named

W. W. DUNLAP

publicity director of the Pennsylvania Grade Crude Oil Association, succeeding Joseph E. Moorehead, recently resigned.

Mr. Dunlap's connection with the association through the research department it maintains at State College, will acquaint him with the position which he will assume August 1. Previous to his association with State College, he was employed on several mid-western newspapers including the Minneapolis Tribune.

Prices on Chicago Market Awaiting New Influences

(Continued from Page 44)

material to fill their storage for their fall and winter needs. Offerings seem to be limited, both from East Texas and elsewhere. This includes distillates, gas oils and the better fuels. The trade here is much interested in the current investigation into fuel oil prices in Washington.

Heavy Fuels

Heavy fuels and industrial gas oils are slow and under the influence of a backward general industrial situation. Heavy gas oil is fractionally lower, while most of the fuels are just about holding their own. Purchases are at a low level.

Lubricants

Weakness in lubricants is disturbing some observers. Neither jobbers nor compounders appear much interested in buying now that a definitely weak price structure is ruling. Motor oil sales to consumers are subject to considerable variation of reports, but probably are holding fairly well.

Naphthas

Naphthas and solvents continue quiet and about unchanged in general aspect. General trade buying is fairly good in most grades.

Waxes

Little change has developed in waxes, which are still ruling at strong prices and are bought rather well. Inquiries are still fairly brisk.

Coke

Petroleum coke continues to mark time. It is in general just about following out anticipated seasonal trends.

CONSUMPTION IN CANADA

OTTAWA, Canada, July 28.—Figures compiled by the federal department of trade and commerce on the basis of provincial gasoline tax returns show a slight gain in gasoline sales this year in comparison with 1933 figures.

For the four months ending April 30, the comparative figures, in gallons, are:

Province—	1934	1933
Prince Edw. Island	172,000	291,000
Nova Scotia	3,065,000	3,297,000
New Brunswick	1,168,000	1,601,000
Quebec	16,236,000	17,156,000
Ontario	57,031,000	57,060,000
Manitoba	4,609,000	4,011 000
Saskatchewan	5,248,000	4,702,000
Alberta	9,502,000	8,465,000
British Columbia	11,066,000	9,779,000

Imports of casinghead gasoline into Canada during April amounted to 1,732,252 gallons appraised at $57,221; compared with 3,227,553 gallons worth $170,039 in April. Receipts of gasoline lighter than .8235 specific gravity in April declined 27.3 per cent, being 625,465 gallons valued at $53,540 compared with 859,901 gallons at $81,263 in March.

CANADIAN TARIFF RULING

OTTAWA, Canada, July 28.—Under a recent order in council of the federal government, the existing import tax on gasoline imported from the United States is in effect reduced 1 cent a gallon.

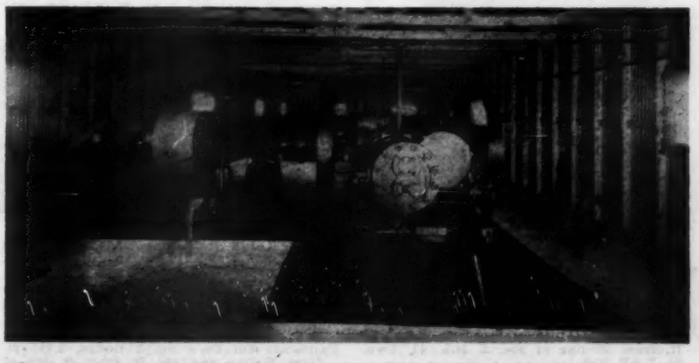
The United States has an excise tax of 1 cent a gallon on gasoline. In the past the fair market price of gasoline as fixed by Canadian customers has included this tax, the dumping duty being increased by that much. Under the new ruling, the United States excise tax is not to be included. The effect of the new regulation is to reduce this dumping duty by 1 cent a gallon. The regular tariff of 2½ cents a gallon is untouched.

Similar action has been taken by the federal government in respect to lubricating oils.

GASOLINE TAX FORESHADOWED

OTTAWA, Canada, July 28.—Intimation has been given that the federal government is investigating the possibility of imposing a federal tax on gasoline, in order to provide additional revenue.

At the present time the various Canadian provinces impose provincial taxes on gasoline, nominally for highway purposes. The ruling tax is 6 cents a gallon, though in some provinces the rate is higher. It is claimed that imposition of a gasoline tax is the exclusive right of the provinces, and intimation has been given that Ontario for one will vigorously oppose such taxation by the federal government.



One of six new bandwheel powers installed by Pure Oil Co. in the Van Field, Van Zandt County, Texas

Texas Commission Cuts Allowable Under Federal

AUSTIN, Tex., July 30.—The Texas Railroad Commission ordered the state oil allowable cut to 981,556 bbls. daily during August, approximately 20,000 bbls. daily less than the maximum quota allotted Texas by Secretary Ickes, federal oil administrator.

Under proration orders issued July 1, Texas production had risen to 1,040,039 bbls. daily on July 24. Secretary Ickes recommended a daily allowable of 1,001,300 bbls. during August, based on the estimated market demand.

The reductions were ordered effective 7 a. m., August 1.

The proration basis for East Texas was fixed at 4 per cent of the hourly potential flow. The commission's chief petroluem engineer, Gordon Griffin, estimated it would reduce the field's daily production from 470,000 bbls. to 399,110 bbls.

The commission had boosted the rate for East Texas from 4½ to 5 per cent, anticipating a decrease in the field's potential would bring the legal flow to within 400,000 bbls. daily. A recalculation by its engineers revealed, however, the rate would have to be reduced.

The commission effected additional reductions in marginal areas by eliminating from allowable schedules the difference between the amount wells actually could produce and their full allotment.

Four pools were granted increases, Yates Pool in the West Texas Permian Basin was boosted from 41,850 bbls. to 46,500 bbls. daily; Cayuga Pool in the East Central Texas district from 1,500 to 3,000 bbls.; South Ward in the Permian Basin from 6,800 to 7,800 bbls. and Greta in Southwest Texas to 14,471 bbls.

Efforts to Stop "Hot" Oil Approaching Climax

(Continued from Page 9)

a separate statement showing stocks held for the account of others nor will it be necessary to show working stocks separately. Total stocks on the new form should include the same items as reported in the past, that is, all stocks reported as "Other" on the old form should be shown under one or all of the three general types of storage, namely, refinery, pipe line and tank farm, or lease.

It is realized that where various grades of crude oil are mixed in the lines or in tanks it is practically impossible from the standpoint of bookkeeping to report the exact details called for on the new form. In such cases permission is hereby granted to report the best estimates available.

PETROLEUM EXPORTS FOR MAY

The following statistics of exports of petroleum and its products for the month of May, 1934, are furnished by the U. S. Department of Commerce:

	Barrels
Petroleum, crude	8,723,798
Natural gasoline	111,781
Gasoline, naphtha, and other finished products	1,643,140
Illuminating oil	647,899
Gas oil and distillate fuel oil	1,343,829
Residual fuel oil	833,721
Lubricating oil	647,826
	Pounds
Lubricating greases	5,493,014
Paraffin wax	14,046,554
	Tons
Petroleum asphalt	11,485
Petroleum coke	7,230

START SHORELINE PLANT

VIVIAN, La., July 28.—The Shoreline Refining Corp. of Shreveport has recently completed its refinery at Lewis, 5 miles south of here, and operation is expected to get under way in a few days. [illegible] is president of the corporation.

This plant will run 1,700 bbls. of crude oil daily, making lubricating oil. It has a fully equipped laboratory and machine shops.

Operation will be in charge of Francis Whitley with M. Neederlans as assistant.

East Central Texas Wildcats

(Continued from Page 47)

Jackson Oil & Gas Co.'s No. 1 H. D. Henderson, 660 ft. from N and W lines of 40-ac. tract out of Tankersley 104-ac. tract, 5 miles NE of Jacksonville on W side of railroad, J. Pineda Sur.
Derrick.

Milhoan Drilling Co.'s No. 1 O. R. Perkins, 1,208 ft. from W line of Perkins 164-ac. tract and 655 ft. from N line of lease, J. M. Martinez Sur.
Drlg. 2,160 ft.

Smith and McCras' No. 1 Tippa, 350 ft. E of W line and 700 ft. N of S line of lease and survey, J. B. Heath Sur.
Set surface csg.

Southern Gulf Oil Co.'s No. 1 Joe Bailey, center 164-ac. tract, 4 miles NE of Ponta, L. R. Rhodes Sur., Abstract No. 724.
Drlg. 3,125 ft

T. J. Wood et al's No. 2 New Birmingham Dev. Co., 660 ft. W and 330 ft. S of No. 1, Levi Jordan Sur.
Drlg. 4,336 ft.

T. J. Wood et al's No. 3 New Birmingham Dev. Co., 660 ft. N and 330 ft. E of No. 1, Levi Jordan Sur.
Location.

Zilkey and McCulloch's No. 1 Bradford, 2,600 ft. from most southerly S line and 771 ft. from E line of survey, 4 miles E of Rusk, J. Armendaris Sur.
Drlg. 3,930 ft.

FANNIN COUNTY

L. Kean et al's No. 1 L. M. Boyd, 900 ft. from E line and 200 ft. from N line of survey, W. Hunt Sur.
Prepare to test; T.D. 2,364 ft.

FRANKLIN COUNTY

Humble Oil & Ref. Co.'s No. 1 Merchants & Traders Bank, 1,000 ft. from S line and 1,500 ft. from E line of Fannie Davis tract, 5 miles SE of Talco, J. Askey Sur.
Coring sandy shale 2,888 ft.

FREESTONE COUNTY

American Liberty Oil Co.'s No. 1 Trinity Farm Security Co., center of N and S lines and 466 ft. from E line of survey, J. B. Bonham Sur.
Drlg. 3,571 ft.

Burris' No. 1 R. J. Johnson, NE cor. of a 95.5-ac. tract, W. M. C. Jones Sur.
Location.

Clyde Creighton's No. 1 Holly Bros., 854 ft. from W and center N and S lines of lease, A.B.&M. Sur.
T.D. 5,711 ft.

Gholson et al's No. 1 E. M. and C. H. Watson, 1,450 varas from N line and 1,150 varas from W line of survey, 6 miles NE of Fairfield, R. D. Price Sur.
Location.

Trinity Farm Co.'s No. 1 N. R. Stewart, 1,866 ft. SW from NE line and 933 ft. SE from NW line of 1,920-ac. tract, R. M. Williamson Sur.
Drlg. 3,578 ft.

J. E. Wilburn's No. 1 S. McShan, 4,000 ft. from MWL and 5,000 ft. from NEL of survey, G. Diaz Sur.
Set surface csg.

HENDERSON COUNTY

Big Bad Wolf Oil Co.'s No. 1 McCreary, 1,800 ft. from W line and 330 ft. from S line of survey, 6 miles S of Malakoff, W. H. Irvin Sur.
Derrick.

Crosby and Pulp's No. 1 M. T. Dobbs, NW cor. of east Dobbs 100-ac. tract, 4 miles E of Malakoff and S of railroad, George Aldrick Sur.
Rig up.

HOPKINS COUNTY

D. A. Hale et al's No. 1 L. M. Hall, 200 ft. from N and E lines of 70-ac. tract, 1 mile SE of Miller Grove, A. Caro Sur.
S.D. 640 ft.

HUNT COUNTY

L. G. Priest's No. 1 Amelia Barnett, 500 ft. from W line, 200 ft. from S line of J. C. Hamer Sur.
Location.

KAUFMAN COUNTY

W. J. Lewis et al's No. 1 D. Clark, 430 ft. from S line and 600 ft. from E line of Sur., 6¼ miles NW of Elmo.
S.D. 500 ft.

LAMAR COUNTY

Cole et al's (formerly Optometrist Oil Club) No. 1 J. M. McFaddin, 450 ft. from S and W lines of E 35-ac. tract, 10 miles NW of Paris, Joseph Dick Sur.
S.D. 2,506 ft.

LEON COUNTY

Kellough and Tucker's No. 1 G. B. Young, 330 ft. from S line and 330 ft. from W line of 100-ac. tract, 4 miles SE of Long Lake, J. M. Boone Sur.
Set surface csg.; T.D. 348 ft.

LIMESTONE COUNTY

Peyton Bros.' No. 1 Stubenrach, 870 ft. NW from SE line, 1,170 ft. SW of NE line of 346.39-ac. tract, P. Varela Sur.
Set surface csg.

Schultz' No. 1 Roy Ward, NE cor. of 73.3-ac. tract, 5 miles W of Mexia Field, Harrison York Sur.
Rebuilding rig.

Ernest Thompson et al's (formerly C. C. Curtis) No. 1 Emma Daniels, 150 ft. from S and W lines of 41.5-ac. tract, Pedro Varela Sur.
Working over old well; old T.D. 2,950 ft.

MORRIS COUNTY

McGinnis et al's No. 1 Staggers, 800 ft. from S line of survey and 150 ft. from W line of lease, J. B. Nelson Sur.
S.D. 3,711 ft.

NACOGDOCHES COUNTY

Livingston Oil Co.'s No. 1 C. B. Watkins 150 ft. from N line and 320 ft. from NW lines of 160-ac. tract, 3 miles S of Caro, H. Y. Bailey Sur.
T.D. 2,785 ft.

J. W. Rich and others' No. 1-A R. W. Haxlewood, 5,450 ft. from S line and 2,800 ft. from W line of survey, 50 ft. N of No. 1, 15 miles SW of Nacogdoches Ewing Sur.
S.D. for surface csg.

NAVARRO COUNTY

Bennett Brothers' No. 1 T. E. Stewart, 150 ft. from NE L of lease, 10 miles SW of Corsicana, Wm. R. Bowen Sur.
Set surface csg. 1,170 ft.

W. J. Keeling et al's No. 1 J. F. Rushing, 484 ft. from N line and 150 ft. from W line of 184-ac. tract, 6 miles SW of Richardson, Henry Ford Sur.
Drlg. 1,884 ft.

McCullough et al's No. 1 C. Berry, 330 ft. from SE cor. of 35-ac. tract, 1 mile W of Dawson, William Moss Sur.
S.D. 625 ft.

Wheelock and Collins' No. 1 I. N. Corf, 375 ft. from N line of lease and 1,050 ft. from W line of lease, James Smith Sur. No. 726.
Coring 4,960 ft.

RAINES COUNTY

Wadley et al's No. 1 P. F. Jones, 400 ft. out of SW cor. of 22-ac. tract, 2½ miles S of Alba, B.B.B.&C. Sur.
T.D. 4,730 ft.

RED RIVER COUNTY

Cornell and Spear's No. 1 E. H. Thompson, 664 ft. from S and 1,062 ft. from W of NE cor. of 384-ac. tract, E. Smith Sur.
Drlg. 710 ft.

RUSK COUNTY

George Hudson et al's No. 3 Jeff Phillips, 150 ft. from N line of survey and 700 ft. from W line of 100-ac. tract, 4 miles SE of Minden, N. Villaria Sur.
S.D. 3,673 ft.

UPSHUR COUNTY

Ben G. Barnett et al's No. 1 W. S. Jones, 200 ft. out of SW cor. of 100-ac. tract, 1½ miles NW of Jamestown, James N. Dunn Sur.
Bailed S.W. 3,700 ft.

Virgil Hodges et al's No. 1 J. M. Floyd, 330 ft. from NE cor. of 126-ac. tract, 4 miles N of Gladewater, Railroad Sur.
Drlg. 3,200 ft.

Lanier and Moore's No. 1 Vaughan, 230 ft. from S line and 330 ft. from W line of 100-ac. tract, 2 miles NW of Big Sandy, P. W. Standifer Sur.
S.D. 1,042 ft.

Joe Papadika's No. 2 Tourney, 100 ft. due W of No. 1.
Drlg. 3,050 ft

VAN ZANDT COUNTY

W. E. Brown's No. 1 Bank of Edgewood, 660 varas from SW cor. of H. M. Lead Sur., M. B. Lout Sur.
Prepare to spud.

Van Zandt Synd.'s No. 1 C. S. Coker, 150 ft. out of SW cor. 55-ac. tract, William Daniel Sur.
S.D. 1,208 ft.

Gillum and Allen et al's No. 1 A. T. Bass, 150 ft. from W line and 150 ft. from N line of 10-ac. tract, William Hart Sur.
Fishing 4,267 ft.

Isaac et al's No. 1 C. F. Darrell, 330 ft. from S and W lines of 53-ac. tract, C. E. River Sur.
T.D. 1,320 ft.

Markin & Evens' No. 1 L. M. Palmer, 850 ft. E of W line and 150 ft. N of S line of 69.8-ac. tract, one-tenth mile E of Pruitt, Nacogdoches County School Land Sur.
T.D. 1,288 ft.

Miller et al's No. 1 J. M. Palmer, 150 ft. from S and E lines of 69-ac. tract, Nacogdoches County School Land Sur.
T.D. 225 ft.

Peden and Olson's No. 1 J. M. Palmer, 200 S of No. 2 and 140 ft. from W line of tract, J. Goodman Sur.
T.D. 1,270 ft.

Pure Oil Co.'s No. 4 T. J. Wallace, 760 ft. N of S line and 176 ft. E of W line of T. J. Wallace 34.7-ac. tract.
Location.

Pure Oil Co.'s No. 2 A. D. Preston, 200 ft. S of N line and 200 ft. NE of SW line of A. D. Preston 9-ac. tract, Mund Gross Sur.
Set csg.; T.D. 2,743 ft.

Pure Oil Co.'s No. 3 Frank Blackstock, 720 ft. S of N line and 665 ft. E of W line of Frank Blackstock 40-ac. tract, John Walling Sur.
Drlg. 310 ft.

Pure Oil Co.'s No. 10 W. T. Jarmon, 650 ft. S of N line of lease and 1,035 ft. W of E line of W. T. Jarmon 132.8-ac. tract in Nacogdoches County School Land Sur.
Drlg. 950 ft.

Pure Oil Co.'s No. 3 W. F. Swain, 700 ft. S of N line, 200 ft. E of W line, John Walling Sur.
Derrick.

Skinner's No. 1 Cade, 180 ft. from S line and 150 ft. from E line of 20-ac. tract, Nacogdoches County School Land Sur.
S.D. 1,265 ft.

WOOD COUNTY

Alex Snyder et al's No. 1 T. Holmes, 200 ft. out of NE cor. of 122-ac. tract, 1¼ miles SE of Hawkins, A. N. McKnight Sur. 399.
Drlg. 3,700 ft.

West Texas Wildcats

(Continued from Page 46)

Harrison et al's No. 2 Addis, 990 ft. from N line and 2,200 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur.
Drlg. by tools; T.D. 3,820 ft.

Harrison et al's No. 3 Addis, 1,650 ft. from N line and 2,200 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur.
Location.

Humble Oil & Ref. Co.'s No. 3 Jones, 2,310 ft. from S and 2,310 ft. from W, Sec. 6, Blk. 44, Twp. 3s, T.&P. Sur.
Drlg. 2,715 ft.

Humble Oil & Ref. Co.'s No. 1 H. H. Pegues, 2,310 ft. from E and 2,310 ft. from S, Sec. 37, Blk. 43, Twp. 2s, T.&P. Sur.
S.D. 4,060 ft.

Landreth Prod. Co.'s No. 2-A Texas Pacific Land Trust, 441 ft. from N line and 440 ft. from W line of Sec. 3, Blk. 43, Twp. 1s, T.&P. Sur.
Drlg. 3,925 ft.

Landreth Prod. Co.'s No. 1-B T. P. Land Trust, 2,200 ft. from the S line and 440 ft. from the W line of Sec. 2, Blk. 43, Twp. 1s, T.&P. Sur.
Flowed 79 bbls. first hr. after shot; T.D. 4,275 ft.

Landreth Prod. Co.'s No. 1-C T.P. Land Trust, 440 ft. N and 440 ft. W of Sec. 11, Blk. 43, Twp. 1s, T.&P. Sur.
Fishing 3,553 ft.

Landreth Prod. Co.'s No. 2 O. B. Holt, 660 ft. from S and E lines of Sec. 15, Blk. 43, Twp. 1n, T.&P. Sur.
Rig up.

Landreth Prod. Co.'s No. 1 Clarence Scharbauer, 660 ft. from S and E lines of Sec. 20, Blk. 44, Twp. 1n, T.&P. Sur.
S.D. 3,765 ft.

Moran Drlg. Co.'s No. 1 Smith, 330 ft. from N line, 330 ft. from W line of Sec. 12, Blk. 43, Twp. 1s, T.&P. Sur.
C.O.; T.D. 4,425 ft.

Skelly Oil Co.'s No. 5-A University, 660 ft. from N and 1,980 ft. from E, Sec. 1, Blk. 35, University Sur.
Location.

Stanolind Oil & Gas Co.'s No. 7 J. M. Cowden, 440 ft. from S line and 2,312 ft. from W line, Sec. 34, Blk. 43, Twp. 1n, T.&P. Sur.
Location.

Stanolind Oil & Gas Co.'s No. 8 J. M. Cowden, 440 ft. from S line and 440 ft. from W line, Sec. 34, Blk. 43, Twp. 1n.
Location.

Stanolind Oil & Gas Co.'s No. 9 J. M. Cowden, 440 ft. from S line and 2,200 ft. from E line, Sec. 34, Blk. 43, Twp. 1n, T.&P. Sur.
Location.

Stanolind Oil & Gas Co.'s No. 4 E. F. Cowden, 1,900 ft. from S line and 660 ft. from W line, Sec. 36, Blk. 43, Twp. 2s, T.&P. Sur.
Drlg. 450 ft.

Sun Oil Co.'s No. 1 Wight, 2,200 ft. from S line, 440 ft. from W line, Sec. 2, Blk. 43, Twp. 1s, T.&P. Sur.
Derrick.

Texas Co.'s No. 10 W. E. Connell, 2,310 ft. from E line and 330 ft. from the S line of Sec. 1, Blk B-16, P.S.L. Sur.
S.D. 3,048 ft.

Fred Turner's No. 2-A Addis, 2,310 ft. from N and 440 ft. from E of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur.
Cellar.

FISHER COUNTY

E. T. Campbell et al's No. 1 W. R. Bishop, 570 ft. from S and 150 ft. from E of NW cor. of Sec. 18, Blk. 21, T.&P. Sur.
Rig up.

Conoor Pet. Co.'s No 1 Herring, 450 ft. from S and 330 ft. from W line of Sec. 192, Blk. 1, B.B.B.&C. Sur.
T.D. 3,110 ft.; plugged back to 3,106 ft.; will treat with acid.

Condor Pet. Co.'s No. 2 Wilson, 640 ft. from N and 2,310 ft. from W line of Sec. 6, Blk. R. W. E. Richardson Sur.
Drlg. 1,697 ft.

Stanolind Oil & Gas Co.'s No. 5 Steele, 1,170 ft. from S and 990 ft. from W line of Sec. 210, Blk. 1, B.B.B.&C. Sur.
Set casing; T.D. 3,192 ft.

Texas Co.'s No. 2-B Teagarden, 990 ft. from S and 330 ft. E of NW cor. of S half of Sec. 9, Blk. 8, W. E. Richardson Sur.
Drlg. 530 ft.

Texas Co.'s No. 1 First National Bank of Rotan, 330 ft. N and E of the NW cor. of Sec. 210, B.B.B.&C. Sur.
Fishing 1,535 ft.

GLASSCOCK COUNTY

Continental Oil Co.'s No. 3 Hart Phillips, 1,050 ft. from N and 660 ft. from W, Sec. 24, Blk. 33, Twp. 2s, T.&P. Sur.
Drlg. 1,311 ft.

Steve Currie et al's No. 1 Underwood, 660 ft. from N line and 660 ft. from E line of Sec. 24, Blk. 3, Twp. 4s, T.&P. Sur.
Drlg. 1,785 ft.

John I. Moore et al's No. 1 J. S. McDowell, 1,980 ft. from N line and 660 ft. from E line of Sec. 22, Blk. 34, Twp. 2s, T.&P Sur.
Drlg. 4,470 ft.

John I. Moore's No. 1 Hubbard, 660 ft. from E line, 660 ft. from S line, Sec. 16, Blk. 34, Twp. 5s, T.&P. Sur.
Drlg. 370 ft.

Luce & Pickens' No. 1 Lee, 330 ft. from N and 330 ft. from W, Sec. 20, Blk. 33, Twp. 2s, T.&P. Sur.
Drlg. 2,100 ft.

Shell Pet. Corp.'s No. 4 Hart Phillips, 2,310 ft. from N line and 660 ft. from E line, Sec. 23, Blk. 33, Twp. 2s, T.&P. Sur.
Location.

Simms Oil Co.'s No. 1 McDowell, 1,650 ft. from N line, 2,310 ft. from W line, Sec. 19, Blk. 33, Twp. 2s, T.&P. Sur.
Moving in material.

Tribal Oil Co.'s No. 5 M. M. Edwards, 330 ft. from S line and 990 ft. from the W line of Sec. 16, Blk. 32, Twp. 2s, T.&P. Sur.
T.D. 2,402 ft.; P.B. to 2,320 ft.; swbd. 95 bbls.

HOWARD COUNTY

Continental Oil Co.'s No. 10 Settles, 320 ft. from N line, 1,650 ft. from W line, Sec. 133, Blk. 29, W.&N.W. Sur.
Rig up.

Eastland Oil Co.'s No. 1 Chalk, 2,310 ft. from S and 1,980 ft. from W, Sec. 125, Blk. 29, W.&N.W. Sur.
S.D. 1,497 ft.

Fuglarr & Patterson's No. 1 Hyman, 330 ft. from S line and 330 ft. from W line of Sec. 89, Blk. 29, W.&N.W. Sur.
Drlg. 875 ft.

Humble Oil & Ref. Co.'s No. 4 Settles, 330 ft. from S and 2,310 ft. from W, Sec. 132, Blk. 29, W.&N.W. Sur.
Swbng.; T.D. 2,384 ft.

California Oil Co.'s No. 1 A. M. Bell, 465 ft. from W line and 1,915 ft. from E line of Sec. 12, Blk. 30, Twp. 1s, T.&P. Sur.
Drlg. 2,490 ft.

California Oil Co.'s No. 1 Dodge, 1,915 ft. from E line and 465 ft. from S line of Sec. 1, Blk. 30, T.&P. Sur.
Pulling pipe; T.D. 2,400 ft.

Dorn et al's No. 1-B Davis, 2,310 ft. from N line and 2,310 ft. from W line of Sec. 2, Blk. 30, Twp. 1s, T.&P. Sur.
Drlg. 2,495 ft.

L. C. Harrison et al's No. 2 Texas Land & Mortgage Co., 2,310 ft. from E line and 330 ft. from the S line of Sec. 4, Blk. 30, Twp. 1s, T.&P. Sur.
Derrick.

Iron Mountain Oil Co.'s No. 1 Read, 330 ft. from E line, 330 ft. from S line, Sec. 46, Blk. 30, Twp. 1n, T.&P. Sur.
Rig up.

Plymouth Oil Co.'s No. 11 Kloh, 1,320 ft. from S line and 660 ft. from W line of Sec. 5, Blk. 32, Twp. 2s, T.&P. Sur.
T.D. 2,360 ft.; show oil and gas.

Permian Pacific Pet. Co.'s No. 1 Capps, 330 ft. from SW cor. of Sec. 17, Blk. 29, Twp. 1n, T.&P. Sur.
Location.

Phillips Pet. Co.'s No. 1 Davis, 990 ft. from E and 2,310 ft. from S line, Blk. 30, Twp. 1s, T.&P. Sur.
Spudded.

Joe Rusk et al's No. 3 G. M. Dodge, 330 ft. from the N line, 330 ft. from the E line, Sec. 9, Blk. 30, Twp. 1s, T.&P. Sur.
Abd. location.

Sinclair Prairie Oil Co.'s No. 12 Dodge, 330 ft. from S line and 2,360 ft. from W line, Sec. 11, Blk. 30, Twp. 1s, T.&P. Sur.
T.D. 2,810 ft.; S.D.

IRION COUNTY

S. E. Colgin's No. 1 Tankersley, 550 ft. from E of river and 150 ft. from S line of Sec. 723, H. J. Voelker Sur.
S.D. 1,386 ft.

Melrose Oil Co.'s No. 1 J. D. Sugg, 1,700 ft. from the E line and 308 ft. from the S line of Sec. 25, Blk. 2, H.&T.C. Sur.
Spudded and S.D.

Williams-Short's No. 1 Gentry, 2,200 ft. from N line and 2,080 ft. from W line of Sec. 1, Blk. 3, H.&T.C. Sur.
S.D. 1,450 ft.

JONES COUNTY

Clifton & Brazelton et al's No. 1 Cassey, 200 ft. from N and W lines of SE cor. of Sec. 15, Blk. 15, T.&P. Sur.
S.D. 800 ft.

Elmer Close et al's No. 1 A. B. Faulks, 330 ft. from N line and 330 ft. from W line of Subdiv. No. 27, Henry Millard Sur.
S.D. 1,970 ft.

Guthrie & Lancaster's No. 1-B Campbell, 330 ft. from N and 2,276 ft. from E line of Sec. 15, Blk. 19, T.&P. Sur.
S.D. 1,020 ft.

Southern Oil Corp.'s No. 2 Williams, 330 ft. from S and W line of Sec. 17, Blk. 19, T.&P. Sur.
Drlg. 2,715 ft.

LOVING COUNTY

R. L. Allen's No. 2 fee, 4,290 ft. from NE line, 990 ft. from SE line, Sec. 82, Blk. 33, H.&T.C. Sur.
Location.

R. L. Allen's No. 3 fee, 4,290 ft. from NE line, 990 ft. from NW line, Sec. 82, Blk. 33, H.&T.C. Sur.
Location.

R. L. Allen's No. 4 fee, 4,290 ft. from NE line, 330 ft. from NW line, Sec. 82, Blk. 33, H.&T.C. Sur.
Location.

Eppenauer Drlg. Co.'s No. 2 Hammill & Ellis, 410 ft. from NW and 796 ft. from NE lines of Sec. 2, Blk. 1, W.&N.W. Sur.
Cellar.

D. C. Evans' No. 1 W. D. Johnson, 2,310 ft. from N and 1,650 ft. from W, Sec. 12, Blk. 57, Twp. 1, T.&P. Sur.
Drlg. 235 ft.

H. W. Martin's No. 4 Wheat, Ramsey, 990 ft. from SE and SW lines of Sec. 83, Blk. 1, W.&N.W. Sur.
Drlg. 3,780 ft.

J. F. Slack's No. 1 Covey, 2,310 ft. from NE line and 330 ft. from SE line of Sec. 3, Blk. 2, W.&N.W. Sur.
Drlg. 3,230 ft.

PECOS COUNTY

California Oil Co.'s No. 7 Smith, Lease No. 1, 275 ft. from N and 1,094 ft. from E, Sec. 37, Blk. 194, G.C.&S.F. Sur.
S.D. 1,424 ft.

California Oil Co.'s No. 24 Hates, 160 ft. from E line and 20 ft. from S line, Sec. 34, Blk. 194, G.C.&S.F. Sur.
Location.

Cardinal Oil Co.'s No. 17-E Tippett, 150 ft. from E line of W half and 730 ft. from N of No. 5-B, Sec. 40, Blk. 194, G.C.&S.F. Sur.
Waiting on orders; T.D. 481 ft.

Illinois Oil Co.'s No. 2 University, 330 ft. from E line and 960 ft. from S line, Sec. 31, Blk. 24, University Land Sur.
Drlg. 1,280 ft.

C. S. Messenger's No. 2 Raind Jones, 1,935 ft. from S line and 1,013 ft. from W line of Sec. 5, Blk. 9, H.&G.N. Sur.
Drlg. 1,202 ft.

Mid-Kansas Oil & Gas Co.'s No. 18 Smith-Taylor, 1,296 ft. from S line, 1,390 ft. from W line, Sec. 33, Blk. 194, G.C.&S.F. Sur.
Location.

Mid-Kansas Oil & Gas Co.'s No. 24 Smith-Taylor, 250 ft. W of S half of Turner tract No. 1, Sec. 33, Blk. 194, G.C.&S.F. Sur. Road.

Mid-Kansas Oil & Gas Co.'s No. 25 Smith-Taylor, 344 ft. W of SE cor. of S half of Turner Tract No. 1, Sec. 33, S.D. 750 ft.

Mid-Kansas Oil & Gas Co.'s No. 26 Smith-Taylor, 395 ft. S and 344 ft. E of SE cor. of S half of Tract No. 1.
Cellar.

Mid-Kansas Oil & Gas Co.'s No. 1 Turner, 250 ft. from N line and 250 ft. from W line of Turner Sur. No. 1.
S.D. 590 ft.

Mid-Kansas Oil & Gas Co.'s No. 12-H Yates, 408 ft. S of N line of Sec. 32 and 334 ft. W of SE cor. of S half of Tract No. 1.
Location.

Mid-Kansas Oil & Gas Co.'s No. 13-H Yates, 408 ft. S of N line of Sec. 32 and 344 ft. E of SE cor. of S half of Tract No. 1.
Location.

Mid-Kansas Oil & Gas Co.'s No. 27 Smith-

BRING ON YOUR SALT WATER

Duroline Pipe can be specified and installed in salt water disposal systems and gathering lines with assurance that the service rendered will be long and uninterrupted—for tests have proved that salt water has no ill effect on Duroline. This highly protective cement lining was developed primarily to resist the action of certain waters that attack unlined metal pipe. And the cost of this superior combination—NATIONAL full weight steel pipe and special interior lining—is surprisingly low—only slightly higher than regular galvanized pipe.

Further, since Duroline is applied to regular NATIONAL Pipe, you obtain the full strength, full wall-thickness, convenient joints, and all other desirable features of the highest quality steel pipe, made by the World's largest maker of tubular steel products, plus this new defense against internal corrosion and tuberculation.

Duroline will help to solve your salt water problems. Outstanding installations are giving added proof every day. A new bulletin describes the development of this remarkable product, and its known serviceability! Write for it today.

NATIONAL TUBE COMPANY • Pittsburgh, Pa.
Subsidiary of United States Steel Corporation

NATIONAL DUROLINE PIPE

Taylor, 194 ft. from N and 865 ft. from E of Sec. 33, Blk. 194, G.C.&S.F. Sur.
Drlg. 1,180 ft.
Mid-Kansas Oil & Gas Co.'s No. 38-A Yates. 250 ft. E and 205 ft. S from the NE cor of Turner Tract No. 3 in Sec. 34½, I. G Yates Sur.
Location.
Mid-Kansas Oil & Gas Co.'s No. 39-A Yates. 150 ft. N and 250 ft. W of the NW cor of Turner tract No. 4, in Sec. 34½, I. G Yates Sur.
Cellar.
Mid-Kansas Oil & Gas Co.'s No. 40-A Yates. 344 ft. from E line and 395 ft. from N of SE cor. of E half of Turner Tract No. 1.
S.D. 650 ft.
Shell Pet. Corp.'s No. 2-D University, 2,310 ft. from S line, 660 ft. from W line, Sec. 32, Blk. 16, University Sur.
Drlg. 565 ft.
Tex-Mex Pet. Co.'s No. 1 Netterville, 5,610 ft. from S and 330 ft. from W of Sec. 59, Blk. 8, H.&G.N. Sur.
Drlg. 1,915 ft.
Trans-Texas Oil Co.'s No. 1 Caldwell, 330 ft. from E line and 330 ft. from S line of Sec. 27, Blk. 46, Twp. 9, T.&P. Sur.
S.D. 330 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 15-C University, Sec. 12, Blk. 2.
Fishing 6,628 ft.
E. P. Kirschner and White's No. 1 W. A. White and McIntosh, 720 ft. from E and 800 ft. from N of Sec. 1,323, E.L.R.R. Sur.
S.D. 3,165 ft.
Skelly Oil Co. et al's No. 1-D H. S. Grayson, 1,980 ft. from N line and 660 ft. from W line of Sec. 33, Blk. 8, University Land Sur.
Rig up.

REEVES COUNTY

J. E. Cunningham's No. 1 Altman, 2,310 ft. from N line and 1,980 ft. from E line of Sec. 1, C. C. Wyatt Sur.
Spudded and S.D.
Grisham & Hunter Corp.'s No. 1-A fee, 1,320 ft. from N line and 1,470 ft. from E line. Sec. 1, Blk. 50, Twp. 8, T.&P. Sur.
Drlg. 3,610 ft.
Hugo Freels' No. 1 B. Greenman, 330 ft. from NE line and 231 ft. from SE line of Sec. 21, Blk. 2, H.&G.N. Sur.
Shot 220 qts. from 3,778-3,580 ft.; no results; S.D.; T.D. 3,986 ft.

RUNNELS COUNTY

Agnew & Sons' No. 2 Fowler, 1,165 ft. from S and 150 ft. from W of NE cor. of Blk. 33, N. Travis Sur.
S.D. 3,550 ft.
Agnew and Currie's No. 1 H. E. Wade, 2,640 ft. from N line and 330 ft. from E line of Sec. 24, Domingo Diaz Sur. No. 532.
Prepare to start up; T.D. 33 ft.
Anderson et al's No. 1 W. F. James, 330 ft. from N and W lines of Subdiv. No. 20, Norvell Travis Sur.
Drlg. 1,520 ft.
Melrose Oil Co.'s No. 1 L. P. Woods, 150 ft. from NE lines and 3,475 ft. from W line of survey, Willett Holmes Sur. No. 100.
S.D. 1,430 ft.
W. S. Sawyer et al's No. 1 Giesecke, 1,211 ft. from N and 4,606 ft. from E lines of survey, Blk. 131, James Hughes Sur.
Tested S.W.; being abd.
F. D. Williams' No. 1 J. L. Bikins, 2,235 ft. from E and 1,300 ft. N of SW cor. of Blk. 12, but in Blk. 13, N. Travis Sur. No. 533.
S.D. 1,410 ft.

SCHLEICHER COUNTY

John M. Cooper et al's No. 1 Bert Page, 1,290 ft. from N line, 1,470 ft. from W line of Sec. 40, Blk. L, G.H.&S.A. Sur. (old well being drilled deeper).
To use acid; T.D. 5,635 ft.
Humble Oil & Ref. Co.'s No. 1 Ike Honig, 2,640 ft. from N line and 2,650 ft. from W line of Sec. 38, Blk. M, G.H.&S.A. Sur.
Rig up rotary; T.D. 690 ft.

SCURRY COUNTY

Paul C. Teas' No. 1 Chapman, 660 ft. from S and 660 ft. from W, Sec. 100, Blk. 9, H.&T.C. Sur.
Drlg. 1,734 ft.

TERRELL COUNTY

W. A. Sudderth's No. 1 Phelps, 2,167 ft. from N line and 2,482 ft. from the W line of Sec. 5, Blk. 4-A, G. W. Turley Sur.
S.D. 5,635 ft.

TOM GREEN COUNTY

Southwest Exploration Co.'s No. 1 Bennett, 1,320 ft. from S and 1,320 ft. from W of Section 1.628, Behringer Sur.
Drlg. 2,670 ft.

UPTON COUNTY

Broderick & Calvert's No. 1 Homer Trust & Savings Bank, 1,980 ft. from N line, 660 ft. from W line, Sec. 22, Blk. B-42, Twp. 4s, T.&P. Sur.
Running csg.; T.D. 1,100 ft.
Gulf Prod. Co.'s No. 193 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G. Sur.
To drill plug; T.D. 10,631 ft.
Perry & Breeding's No. 1 Lane, 1,650 ft. from S line and 990 ft. from E line of Sec. 36, Blk. 1, M.K.&T. Sur.
Location.
Stanolind Oil & Gas Co.'s No. 33 Burleson, 1,650 ft. from N line, 1,650 ft. from E line, Sec. 2, Nidever Sur.
Location.
Texas Pacific Coal & Oil Co. and Simms Oil Co.'s No. 4-D J. F. Lane, 990 ft. from S line and 1,650 ft. from W line, Sec. 36, Blk. L, M.K.&T. Sur.
Drlg. 1,305 ft.
Theabotal Oil Co.'s No. 2 J. F. Lane, 1,650 ft. from N and 990 ft. from E of Sec. 36, Blk. 1, M.K.&T. Sur.
S.D. 2,285 ft.
Williams & Williams Drlg. Co.'s No. 1 Robbins, 1,600 ft. from S and 1,900 ft. from E, Sec. 4, C.C.&S.F. Sur.
S.D. 1,995 ft.

VAL VERDE COUNTY

South-Western Exploration Co.'s No. 1 E. K. Fawcett, 2,310 ft. from S and 2,310 ft. from E, Sec. 14, Blk. L, G.C.&S.F. Sur.
Rig up.

WARD COUNTY

Atlantic Oil & Prod. Co.'s No. 3 Barrow, 2,310 ft. from NE line and 990 ft. from NW line of Sec. 23, Blk. 5, H.&T.C. Sur.
Set csg.; T.D. 2,971 ft.
Alexander's No. 1 Richter, 1,650 ft. from NW, 1,170 ft. from NE line of Sec. 27, Blk. 34, H.&T.C. Sur.
Drlg. 1,500 ft.
Bradford et al's No. 1 E. R. Allen, 660 ft. from NW line and 551 ft. from NE line, Sec. 11, H.&T.C. Sur.
Location.
H. L. Randall et al's No. 1 Lee Monroe, 2,310 ft. from NE and 330 ft. from SE lines of Sec. 77, Blk. 34, H.&T.C. Sur.
Drlg. 2,460 ft.
California Oil Co.'s No. 8 York, 990 ft. from N and 2,310 ft. from SW of Sec. 10, Blk. 34, H.&T.C. Sur.
S.D. 2,524 ft.
C. C. Duffey et al's No. 1 Llano-Sloan, 1,650 ft. from NW and NE lines of Sec. 24, H.&T.C. Sur.
Drlg. 1,325 ft.
Eppenauer Drlg. Co.'s No. 1-B Combs, 438 ft. from SE and 1,326 ft. from SW, Blk. 4, J. W. Hollingsworth Sur.
Rigged up and S.D.
Farrell & Co.'s No. 4 Pure-Bennett, 990 ft. from NE and 1,650 ft. from SE, Sec. 16, Blk. 34, H.&T.C. Sur.
Set csg.; T.D. 2,230 ft.
Gulf Production Co.'s No. 32 Hutchins, 990 ft. from N line, 990 ft. from W line, Sec. 4, Blk. F, G.&M.M.B.&A. Sur.
Rig up.
Gulf Prod. Co.'s No. 50 O'Brien, 990 ft. from E line, 330 ft. from S line, Sec. 17, Blk. F, G.M.M.B.&A. Sur.
Rig up.
Postellio & Caprito's No. 1 Purcell, 330 ft. from NE and 990 ft. from NW, Sec. 17, Blk. 34, H.&T.C. Sur.
Rigged up and S.D.
Rector Oil Co.'s No. 1 Lee Monroe, 660 ft. from NE and 660 ft. from SE of Sec. 62, Blk. 33, H.&T.C. Sur.
S.D. 4,661 ft.
Sid Richardson's No. 1 Lee Monroe, beginning at the NE cor. of J. W. Hollingsworth Sur. No. 4, thence 440 ft. SE, thence NE 430 ft., J. W. Jackson Sur. No. 55.
S.D. 2,540 ft.
Rogers & Graham's No. 1 J. C. Wells, 330 ft. from SE and 603 ft. from SW, Sec. 19, Blk. 34, H.&T.C. Sur.
Spudding.
Sageland Oil Corp.'s No. 2 Pure-Bennett, 1,650 ft. from NW and 2,310 ft. from SW, Sec. 16, Blk. 34, H.&T.C. Sur.
Spudded and S.D.
Tex-Mex Pet. Corp.'s No. 2-B Shell-Sloan, 2,310 ft. from NE and 990 ft. from NW, Sec. 16, Blk. 5, H.&T.C. Sur.
Drlg. 3,035 ft.
Tex-Mex Pet. Corp. et al's No. 3 Llano-Owens, 1,650 ft. from NW line and 2,310 ft. from SW line, Sec. 16, Blk. 5, H.&T.C. Sur.
Drlg. 275 ft.

WINKLER COUNTY

Harry Adams' No. 2 Scarborough, 990 ft. from N line and 990 ft. from W line, Sec. 3, Blk. 77, P.S.L. Sur.
Location.
Magnolia Pet. Co.'s No. 6 Scarborough, 1,650 ft. from S line and 330 ft. from W line of Sec. 4, Blk. 22-C, P.S.L. Sur.
Drlg. 2,870 ft.
Magnolia Pet. Co.'s No. 7 Scarborough, 1,650 ft. from N line and 990 ft. from E line of Sec. 18, Blk. 7, P.S.L. Sur.
Drlg. 2,575 ft.
R. S. Mathews et al's No. 1 Evans, 1,320 ft. from N line and 1,320 ft. from W line, Sec. 46, Blk. 73, P.S.L. Sur.
Spudded and S.D.
Sid Richardson's No. 3-B W. D. Johnson, 330 ft. from SE and 2,310 ft. from SW, Sec. 22, Blk. 34, H.&T.C. Sur.
Location.
Sid Richardson's No. 1-H Scarborough, 2,310 ft. from E line and 660 ft. from S line of Sec. 4, Blk. C-22, P.S.L. Sur.
Rig up.
Sid Richardson's No. 5-A Scarborough, 330 ft. from W and 190 ft. from S, Sec. 1, Blk. 22-C, P.S.L. Sur.
Moving in machine.
Richardson's No. 6 Scarborough, 330 ft. from N line and 2,310 ft. from W line, Sec. 18, Blk. 174, P.S.L. Sur.
C.O. after shot.
Sinclair Prairie Oil Co.'s No. 3 W. F. Scarborough, 102 ft. from the N line, 1,650 ft. from E line, Sec. 1, Blk. 77, P.S.L. Sur.
Prepare to shoot; T.D. 3,026 ft.

Texas Panhandle Wildcats

Week Ending July 30

CARSON COUNTY

Empire Gas & Fuel Co.'s No. 1 C. S. Selber, 1,326 ft. from E line, 330 ft. from S line of SE Sec. 16, Blk. 7, I.&G.N. Sur.
Set csg. 2,836 ft.
Hagy et al's No. 2 Bernard, C NE SE Sec. 44, Blk. 4, I.&G.N. Sur.
Location.
Hagy et al's No. 1 Sullivan, C NW Sec. 44, Blk. 4, I.&G.N. Sur.
Drlg. 2,405 ft.
Stanolind O. & G. Co.'s No. 2 L. C. McConnell, 330 ft. from N line, 330 ft. from W line, E½ SW Sec. 187, Blk. 3, I.&G.N. Sur.
Fishing 3,045 ft.
Texas Co.'s No. 3 E. Cooper, 330 ft. from S line, 330 ft. from W line, S½ Sec. 6, Blk. 9, I.&G.N. Sur.
C.O. to test; T.D. 3,116 ft.

CHILDRESS COUNTY

Humble Oil & Ref. Co.'s No. 1 B. P. Smith, 1,327 ft. from S line and 1,327 ft. from E line of Sec. 37, H.&G.N. Sur., Blk. 9.
Fishing 3,800 ft.; showed 420 ft. of S.W. on D.S. test at 3,730 ft.
T.D. 3,900 ft.; P.B. to 3,593 ft.; to drill by pipe.

DALLAM COUNTY

Eben Warner's No. 1 Jarbie, 1,520 ft. from S line, 415 ft. from W line, Sec. 2, B.&B Sur.
Fishing 3,200 ft.

GRAY COUNTY

Dixon Creek Oil Co.'s No. 1 Benedict, 330 ft. from S and 330 ft. from W, Sec. 114, Blk 3, I.&G.N. Sur.
Drlg. 2,495 ft.
Gulf Prod. Co.'s No. 5 Ellis Cockrell, 330 ft. from N and E lines, S½ Sec. 2, Blk. M-21, T.C.R.R. Sur.
Location.
Hoffman Oil Co.'s No. 1 D. M. Massey, 330 ft. from S line, 330 ft. from E line of 40-ac. of W 20-ac. of Sec. 41, H.&G.N Sur., Blk. 26.
Spudded and S.D.
Johnson et al's No. 1 Thut, 330 ft. from N and 150 ft. E of S. A. Sweig.
Drlg. 2,520 ft.
Ninpa Oil Corp.'s No. 1 Cole, 330 ft. from S and 330 ft. from W, Sec. 104, Blk. 3, I.&G.N. Sur.
Drlg. 3,297 ft.
Southwest Prod. Co.'s No. 1 T. Cobb, 1,320 ft. from S line, 990 ft. from E line, NE Sec. 184, Blk. 3, I.&G.N. Sur.
Rig burned; T.D. 2,450 ft.
Texwell Oil Co.'s No. 1 J. C. McConnell 330 ft. from S line, 330 ft. from W line, SW SW Sec. 174, Blk. 3, I.&G.N. Sur.
Set csg.; T.D. 3,106 ft.

HUTCHINSON COUNTY

Badger Oil Co.'s No. 6 Lewis, 330 ft. from S line, 330 ft. from E line, SE Sec. 8, Blk 25, B.S.&F. Sur.
Prep. to shoot; T.D. 2,978 ft.
Brownie Oil Co.'s No. 1 Ware, 330 ft. from N and 330 ft. from W, Sec. 124, Blk. 4, I.&G.N. Sur.
Set csg.; T.D. 1,182 ft.
Huey et al's No. 1 Christian, 220 ft. from S and 330 ft. from W, Sec. 33, Blk. Y, A.&B. Sur.
Rig up.
Phillips Pet. Co.'s No. 3 A. Yake, 7,563 ft. from N line, 330 ft. from W line, Sec 86, H.&T.C. Sur., Blk. 47.
Drlg. 2,360 ft.
Remo Oil Co.'s No. 1 Mankins, SW cor. SE SE Sec. 54, Blk. 13, H.&G.N. Sur.
Cellar.
Stanolind O. & G. Co.'s No. 4-C Ware, 330 ft. from N line, 1,650 ft. from W line, Sec 20, Blk. M-31, T.C.R.R. Sur.
Rig up.
Texas Co.'s No. 1 W. E. Herring, 1,200 ft. from E line, 1,200 ft. from N line of W 1,594 acres of the E. Almaguire Sur.
Drlg. 2,967 ft.

KNOX COUNTY

C. C. Christie's No. 1 Moore, Sec. 87, Blk 45, H.&T.C. Sur.
Location.

MOORE COUNTY

Phillips Pet. Co.'s No. 2 J. C. Wilson, Sec 157, Blk. T-3, T.&N.O. Sur.
Drlg. 4,000 ft.

WHEELER COUNTY

Alma Pet. Co.'s No. 1-B Johnson, 330 ft. from N line, 330 ft. from W line, W½ NE Sec. 47, Blk. 25, H.&G.N. Sur.
Pay 2,448-69 ft.; swbng. oil; T.D. 2,504 ft.
Bowers & Carvers' No. 1 L. B. Sims, 330 ft. from N line, 330 ft. from E line of SW SE Sec. 69, Blk. 17, H.&G.N. Sur.
S.D. 1,350 ft.
Dyke Oil Co.'s No. 1 G. W. Sitter, 330 ft. from N line, 330 ft. from E line, N½ NW Sec. 28, Blk. 24, H.&G.N. Sur.
Drlg. 1,220 ft.
Johnson and Barrett's No. 1, NW cor. NE Sec. 24, Blk. 13, H.&G.N. Sur., 11 miles E and S of Shamrock.
Drlg. 300 ft.
LeFors Pet. Corp.'s No. 1 Perkins, 330 ft. from S line, 330 ft. from W line, Sec. 54, Blk. 24, H.&G.N. Sur.
Location.
Mid-Continent Pet. Corp.'s No. 6 J. S. Carwile, 990 ft. from N line, 990 ft. from E line of NE Sec. 51, H.&G.N. Sur., Blk. 24.
Testing; T.D. 2,440 ft.
Myers & Kennedy's No. 1 Harvey, 660 ft. from S and E lines of NW Sec. 67, Blk. 13, H.&G.N. Sur.
T.D. 2,285 ft.; to P.B.
Piney O. & G. Co.'s No. 1 Rippey, C NE Sec. 123, Blk. 23, H.&G.N. Sur.
Location.
Shell Pet. Corp.'s No. 1 Bush, 330 ft. from N line, 330 ft. from E line, N½ NE Sec. 48, Blk. 24, H.&G.N. Sur.
Pay 2,405-26 ft.; T.D. 2,493 ft.
Smith Bros.' No. 1 A. Plummer, 330 ft. from N line, 330 ft. from E line, N½ SW Sec. 45, Blk. 24, H.&G.N. Sur.
Flowed 250 bbls. in 24 hrs.; T.D. 2,520 ft.

Southwest Texas Wildcats

(Continued from Page 45)

J. G. Bowles' No. 1 Dillon, 750 ft. from road on E and 4,750 ft. from S line of survey, Manuel Delund Sur.
T.D. 1,182 ft.; fishing.
Dr. Dickens' No. 1 Victor Golia, 150 ft. NW line and 150 ft. NE line of Cardines No. 25 Sur.
Location.
C. A. Smith's No. 1 Ewry Lamb, 750 ft. from N and E lines of Lamb farm, in de la Garza grant.
T.D. 982 ft.; show of oil and gas from 968-82 ft.; W.O.C.

CALDWELL COUNTY

A. S. Cargill's No. 2 Damereau, 150 ft. from W line, 450 ft. from N line of D. Cooper Sur.
Top Edwards 3,280 ft.; S.O.; T.D. 3,363 ft.; testing.
F. P. Hynes et al's No. 1 Tramwell, 750 ft. from SE line and 330 ft. from NE line of tract in Ester Berry Sur.
Location.
Werth Oil Co.'s No. 1 Rutledge, 1,000 ft. from N line and 300 ft. from E line of A. Hadley Sur.
Spud.

BEXAR COUNTY

A. M. Blume's No. 3 Ridder, 2,500 ft. S line, 3,500 ft. W line of SW cor. of Munroe Sur., in J. M. Barrera Sur.
S.D. 440 ft.
Montevista Oil Co.'s No. 1 W. I. Pope, 1,000 ft. from W line and 1,750 ft. from S line of J. D. Rains Sur., in I. Rains Sur.
Drlg. shale 510 ft.
W. C. Moore's No. 1 Lackey, 440 ft. NW line, 150 ft. NE line of Lackey's 193.75-ac. tract, or 450 ft. NW line and 2,600 ft. NE line of Damon Sur.
T.D. 1,510 ft.; S.D.
Newton Oil Co.'s No. 1 A. D. Mebane, 3 miles southwest of Lockhart.
Rigging up.
Wagner, Daniels & Stierene's No. 1 S. M. Blackwell, 4,350 ft. SW line, 1,500 ft. SE line of tract and survey in John Roe Sur.
T.D. 2,351 ft.; abd.

DEWITT COUNTY

Keystone Royalties' No. 1 L. T. Burns, 1,100 ft. from W and 600 ft. from S line of 303-ac. tract in L. G. Belcher Sur.
T.D. 3,623 ft.; S.D.

DUVAL COUNTY

Beer & Lewis' No. 1 Peters, Sur. 27.
T.D. 1,200 ft.; S.D.
Buffalo-Texas Drlg. Synd., Inc.'s No. 1 Escobar, 700 varas from W line, 1,000 varas from N line of 930-ac. tract in Francisco grant.
Shale 3,217 ft.; S.D.
Dr. J. H. Butte et al's No. 1 Tom Graham, 1,122 ft. N line, 3,375 ft. W line, Sec. 572, E line of county and N line of San Diego.
Location.
Chiquita's No. 2 Richardson, 250 ft. N and W line of survey and block in Blk. 1, Sur. No. 3.
T.D. 1,716 ft.; S.D.
Continental Oil Co.'s No. 2-A Clara. Driscoll Sevier, 3,675 ft. S and 1,000 ft. from E line of Sec. 448.
T.D. 3,843 ft.; odor oil 3,834-43 ft.
Fox & Hamon's No. 1 State.
S.D. 400 ft.
Tom Graham and Texon Royalty's No. 1 Parr, 2,000 ft. from N line, 2,500 ft. from E line of Pointenant Sur. No. 185.
T.D. 3,624 ft.; S.O. 3,589-3,624 ft.
Frank Gravis' No. 1 Hubbard, 960 ft. S line, 330 ft. W line of B.S.&F. Sur. No. 83.
T.D. 1,760 ft.; S.D.
O. R. Jeffers' No. 1 Cadena, 1,000 ft. from N line and 330 ft. from E line of Subd. No. 3 in Jose Marcello, Hino Josa grant. Derrick.
W. C. McBride's No. 1 Haglst, 330 ft. from N and E lines of SE 80 ac. of Sec. 1.
T.D. 1,532 ft.; S.D.
O'Byrne & Jennings' No. 1 Benavides, 3,734 ft. from S cor. and 330 ft. from W line at right angles. Sur. 355.
T.D. 1,345 ft.; S.D.
Sun Oil Co.'s No. 1 Moreno, 320 ft. from E line and 2,000 ft. from S line of NW cor. of H.&W. Sur. 537, in Sec. 540 (5 mi. S of San Diego).
Drlg. 6,150 ft.
Witherspoon et al's No. 1, Richardson Sur. No. 5.
T.D. 1,005 ft.; S.D.
Louis Yeager's No. 1 Yeager, 694 ft. from W line, 1,527 ft. from S line of Sur. No. 88.
T.D. 865 ft.; S.D.

FRIO COUNTY

Amerada Pet. Co.'s No. 2 Halff & Oppenheimer, begin at most easterly N cor. of John H. Gibson Sur. No. 16, thence SE along NE line of Sur. 2,100 ft., thence SW at right angles 800 ft. (4 mi. SW of Pearsall).
Drlg. 6,375 ft.

GILLESPIE COUNTY

Doerr et al's No. 3 Lindig.
Drlg. 335 ft.

GOLIAD COUNTY

Duval Oil Corp.'s No. 1 Lucy Borden, 330 ft. NE cor. of 124-ac. tract in Alberto Guitteres Sur., 1½ miles W of Charco.
Location.
Jane Oil Co.'s No. 2 Grady Smith, 990 ft. SW lines of B.&B. Sur., 330 ft. SE line of Magnolia's 504-ac. tract.
T.D. 3,714 ft.; comp. 10 bbls. hr.; 11/32-in. choke; tubing pressure 300 lbs.; csg. pressure 510 lbs.
Jim Kendricks & J. M. O'Byrne et al's No. 1 Runge State Bank, 330 ft. from NW line and 330 ft. from SW line of 142-acre tract.
T.D. 3,745 ft.; D.S. test 3,740-45 ft.; 70 ft. oil and mud; ¾-in. choke bottom; 5/16-in. choke top; S.D.
Brice McCandless' No. 1 First Natl. Bank of Beeville, in Myers Sur.
Moving in rig.
Oceanic Pet. Co.'s No. 1 Fromme, 1,500 ft. S line, 1,200 ft. W line of 62-ac. tract in P. D. Dexter Sur., 10 miles N of Goliad.
Rigging up.

GONZALES COUNTY

Weinert et al's No. 1 Aug. Kallis, in Aug. Kallis' 150-ac. tract, just over Guadalupe County line in Gonzales County, 2,450 ft. N of river and in center of tract in Ira Nash Sur.
Location.

GUADALUPE COUNTY

Diamond Half Oil Co.'s No. 1 E. A. Ball, 3,000 ft. NE line and 3,500 ft. SE line of L. H. Peters Sur., 8 miles SW of Pequin.
Drlg. shale 1,900 ft.
Diamond Half Oil Co.'s No. 1 Kallies, 2,340 ft. N of river and 150 ft. from W line of tract in Ira Nash Sur.
Rigging up.
Hellifield's No. 1 Bailey, near Kingsbury.
T.D. 2,303 ft.; abd.
J. Elmer Thomas et al's No. 1 A. J. Mauermann, 5,250 ft. from W line and 22,900 ft. from S line of Joseph DeLabaume Sur.
Spudded and S.D.

HIDALGO COUNTY

Davis & Harrison's No. 1 Lula George, 300 ft. from S and 700 ft. from E lines of Tract 12, Porcion 41, Ancient Jurisdiction of Reynosa.
Drlg. 3,630 ft.; no report.

Rogers et al's No. 1 Fairbanks, 7 miles S of McAllen.
T.D. 210 ft.; S.D.
Otto Woods' No. 1 John Lawrence, 530 ft. from W, 300 ft. from N line of Tract 274, Porcion 39, Ancient Jurdiction of Reynosa.
T.D. 2,063 ft.; S.D.
Union Sulphur Co.'s No. 2 American Rio Grande L. & I. Co., 400 ft. from S and E lines of tract, Blk. 86, North Capisallo district.
Spud.

JIM HOGG COUNTY

Santa Clara's No. 1 W. W. Jones, 6,100 ft. from N line, 1,700 ft. from W line of Share 27, cor. of Blk. No. 111, in the Hino Jose grant.
Drlg. 3,720 ft.
W. G. French's No. 1 T. T. French, 5,700 ft. S line, 9,260 ft. W line of grant, or cor. of Blks. 67 and 68 in the Los Moritos grant.
T.D. 2,714 ft.; abd.
Sun Oil Co.'s No. 1 Martinez Est., center of tract No. 125, in Las Animas grant.
Drlg. 1,700 ft.

JIM WELLS COUNTY

Camp's No. 1 B. O. Owens, 900 ft. from N and E lines of Sec. 11.
T.D. 500 ft.; S.D.
O. W. Killam's No. 1 Wade, 100 ft. NE line and 1,400 ft. NW line of Lot No. 1, Blk. C, Wade Subd.
Location.
Plymouth Oil Co.'s No. 1 Cuero Cattle Co., 330 ft. from S and W lines of H.T.&B. Sur. No. 7, 2½ miles W from Alfred.
Rigging up.

KARNES COUNTY

Auld & Ricker's No. 1 Schaefer, 1,200 ft. from S line, 300 ft. from W line of N. Schaefer 447.5-ac. tract in A. W. Belvins Sur.
Location.
R. E. Ceveaux et al's No. 1 Tom Campbell, 330 ft. S and E cor. of farm and survey, J. R. Backer Sur., 12½ miles SW of Falls City.
Spud and S.D.
Harrison Oil Co.'s No. 1 Martin Schaefer, 330 ft. from SW line, 1,200 ft. from SE line of L.P.I.A.&M. Sur.
Drlg. 926 ft.

KENDALL COUNTY

Walter Bradley's No. 1 Werner, John F. Torrey Sur.
T.D. 695 ft.; S.D.
Pierce & Garvey's No. 2 D. Werner, 1,140 ft. E., 420 ft. S line of J. F. Perry Sur., 6½ miles N of Kendalia.
Drlg. 465 ft.; no report.

KERR COUNTY

Edmiston Oil Corp.'s No. 1 Whitworth, 1,160 ft. from S line and 1,322 ft. from E line of Sec. 1,439 of the H.E.&W.T. Sur.
Drlg. 675 ft.; no report.
Jeff Love and Eastland Oil Co.'s No. 5-E Jeff Love, 1,500 ft. SE of No. 1 and 1,580 ft. from SE cor. and 300 ft. from N line of Sec. 1,591.
T.D. 1,500 ft.; S.D.
J. F. Morrissey et al's No. 1 Karge, 1,400 ft. from S line and 600 ft. from E line of survey, Sec. 1, B.S.&F. Sur.
Drlg. 150 ft.
G. F. Schreiner's No. 8 Love, 1,420 ft. from W line, 1,260 ft. from S line of Sur. No. 1,594.
Drlg. 1,300 ft.; no report.

KLEBERG COUNTY

J. S. Brown's No. 1 Antone Dietz, Sec. 7, Hotch estate.
T.D. 3,128 ft.; S.D.
Harry Clark's No. 1 V. J. Kivlin, 360 ft. from E line, 400 ft. from S line of Sec. 39, Blk. 8, Kleberg Town & Improvement Co. Sur.
T.D. 2,311 ft.; testing.

LEE COUNTY

Jas. E. Pederson's No. 1 Turner, David Hudson Sur.
Drlg. shale 5,200 ft.
H. A. Sherlack's No. 1 Otto, 736 ft. from NW line, 1,310 ft. from NE line of 57.5-ac. tract in Thomas Morrow Sur.
T.D. 1,495 ft.; S.D.

LIVE OAK COUNTY

J. H. Durbin's No. 3 Marbach, 1,850 ft. from W line and 450 ft. from S line of 428-ac. tract in Stephen Hays Sur.
Moving in rig.
Houston Oil Co.'s No. 25 Cartwright, J. Sandman Sur.
T.D. 5,258 ft.; spraying some oil; tubing pressure 1,820 lbs.; csg. pressure 1,820 lbs.
Drlg. 3,400 ft.
Lion O. & R. Co.'s No. 1 P. E. McNeill, 1,320 ft. from SW lines and 1,370 ft. from SE lines of Jane Curry Sur.
Drlg. 3,400 ft.
Unity Pet. Co.'s No. 1 Terrill, begin at NE cor. of Reifert's 142-ac. tract, which is Blk. 7, go S along W line of survey 2,000 ft., thence E at R/A 316 ft. in C. Scanlon Sur.
T.D. 935 ft.; S.D.
Witherspoon Oil Co.'s No. 3 Marbach, 330 ft. from NW line and 1,320 ft. from SW line of Subd. 15, 1,000 ft. N of No. 1, Jardin Sur.
Location.
Witherspoon Oil Co.'s No. 2 H. Clements, 100 ft. S of No. 1 junked hole, Eliz. Jordan Sur.
Cemented 7-in. csg. at 515 ft.; W.O.C.

MAVERICK COUNTY

Stroman & Wright's No. 2 Debona, 440 varas E line, 280 varas S line of Sur. No. 1.
T.D. 853 ft.; S.D.
Ollie Wright's No. 1 L. Little, 500 ft. from N line, 3,800 ft. from E line of Potter Sur. No. 65 (10 mi. N of Eagle Pass).
T.D. 1,037 ft.; abd.

McMULLEN COUNTY

Buford & Golightly's No. 1 Mauer, 786 ft. N line and 840 ft. E line of Sec. 23, H.T.&B. Sur., 5 miles W of Wentz.
T.D. 1,010 ft.; S.D.
Hall & Howard's No. 2 Lark, Scrugham Sur.
T.D. 1,074 ft.; testing.
Don Long's No. 1 Nueces Land & Livestock Co., Sec. 111.
Rigging up.
A. P. Pierce's No. 1 Lark, 150 ft. NW cor. of Blk. 41, in Schrugham Sur.
Derrick.
C. C. Shumway's No. 7 Shiner, 1,950 ft. from W line and 330 ft. from N line of Sec. 53.
Spud.

MEDINA COUNTY

Scoggins & Sanders' No. 1 L. W. Burrell, 150 ft. from E line, 1,750 ft. from N line of M. E. Gage Sur. 395.
T.D. 1,390 ft.; S.D.

MENARD COUNTY

Duffey-Chedster's No. 1 Mears Wilkinson, 660 ft. S line and 660 ft. W line of T.&N.O. Sur., Sec. 23, Abstract 756.
Rigging up and S.D.

NUECES COUNTY

Holliday et al's No. 1 Hutchins, 330 ft. from N line, 94 ft. from W line of 62-ac. lease.
Drlg. shale 2,572 ft.
Houston Oil Co.'s No. 3 W. W. Walton, 465 ft. from W line and between N and S lines of 16-ac. tract.
T.D. 1,038 ft.; W.O.C.
Midland Oil Co.'s No. 1 S. M. Noakes, start where road crosses river, thence 1,400 ft. S, thence 300 ft. W at R/A, in Gregoria Farias grant.
Drlg. 5,855 ft.
South Mineral Corp.'s No. 2 Ocher, 2,569 ft. from S line, 417 ft. from E line of 95-ac. tract in Sur. 418, Sec. 8.
Sand 4,861-68 ft.; W.O.C.
Stanolind O. & G. Co.'s No. 2 Stratton, 1,980 ft. from N line, 660 ft. from W line of NE Sec. 13, DeAbaio grant.
T.D. 5,000 ft.; D.S. test 4,801-17 ft.; 6 fourbles S.W. and small gas pressure; 10 min.
Texas Seaboard's No. 1 Ed Jurica, 150 ft. from NE line, 500 ft. from W line of Blk. 32.
T.D. 3,451 ft.; S.D.

REAL COUNTY

H. J. Reartwell et al's No. 2 L. J. Haby, 694 ft. from W line and 2,153 ft. from S line of A.B.&M. Sur. No. 175.
T.D. 2,838 ft.; prep. to move in standard derrick.

SAN PATRICIO COUNTY

Atkins-O'Neil and Continental's No. 2 Welder, 466 ft. from S and E lines of lease, Blk. 2, two locations S of Circle W Oil Co.'s No. 1 Welder.
Drlg. plug 5,383 ft.
Carpenter et al's No. 1 Sadler, 300 ft. each way out of SE cor. Blk. 1, Sec. 32, T. Perez Sur.
T.D. 5,056 ft.; S.D.
Continental and Atkins & O'Neil's No. 1-A Welder, 534 ft. from NE line, 466 ft. from SE line of Blk. 2, Hart Sur.
Drlg. plug 5,453 ft.
Heep Oil Corp's No. 2 R. Welder, 466 ft. from S line, 2,000 ft. from E line of Adeline Welder tract in Victor Loupsey Sur.
Derrick.
Heep Oil Co.'s No. 3 R. Welder, 3,000 ft. from E line and 9,920 ft. from S line of lease in Loupsey Sur.
Drlg. 4,210 ft.
Jane Oil Co.'s No. 1 Ragsdale Bros., Sec. 58, Geo. H. Paul Subd.
T.D. 5,518 ft.; fishing.
Marland Oil Co. of Texas' No. 1 Micalastic, 660 ft. S and W, NE Sec. 6, George H. Paul Subd.
Drlg. 2,155 ft.
Petrol Corp.'s No. 1 R. H. Welder, 467 ft. from S and E lines of 360-ac. tract.
Coring 5,375 ft.
Plymouth Oil Co.'s No. 1-B Welder, 3,500 ft. NW of No. 1-A.
T.D. 5,660 ft.; T.A.
Plymouth Oil Co.'s No. 2-A Welder, 1,320 ft. due E of No. 1-A.
T.D. 5,548 ft.; P.B. to 5,300 ft.; coring sand again.
Stanolind O. & G. Co.'s No. 2 Stratton, ½ mile NE of No. 1, completed 2 yrs. ago.
Location.

STARR COUNTY

Chas. H. Andrews et al's No. 1 A. Guerra San Jose grant, 330 ft. from N and 150 ft. from E line of Sec. 6 (NE part of county).
T.D. 501 ft.; S.D.
R. S. Boling's No. 1 M. M. Garcia, Sur. No. 918.
T.D. 2,507 ft.; S.D.
C. R. Borah's No. 1 Arcadio Guerra, 150 ft. from E line and 330 ft. from N line of Share 6, San Ramon grant.
Location.
Clements & Goldston's No. 1 J. M. Longfellow, 330 ft. out of NW cor. of Sur. No. 281.
Location.
Jim Cloud, Inc.'s No. 1 J. Rodriques, Share 35, Porcion 88, ancient jurisdiction of Camargo.
S.D. 160 ft.
Cooper & Andrews' No. 1 J. M. Martinez SW cor. of Sec. 135.
Old well, to deepen; T.D. 3,200 ft.
Dean Bros.' No. 1 M. M. Garcia, 2,150 ft. from S line, 4,600 ft. from W line of Sur. No. 916.
T.D. 2,237 ft.; S.D.
Great Plains Oil Co.'s No. 1 Sanches, 660 ft. from W line, 330 ft. from S line of SE NW of Sur. No. 344.
T.D. 2,905 ft.; T.A.
H. C. Harter's No. 1 Sanches et al, 330 ft. from N line and 450 ft. from W line of Share 72, Porcion 72.
Drlg. shale 200 ft.
Merle Gundry's No. 1 Block, NW of Sur. 167.
Drlg. 3,545 ft.
Mitchell's No. 1 Kelsey-Bass, 150 ft. from N, 1,150 ft. from E lines of Share 5, Porcion 75, ancient jurisdiction of Camargo.
Location.
R. M. Mitchell's No. 1 Seabury, 4,000 ft. from N line, 150 ft. from E line of Share 5, in Por Sur. No. 75.
T.D. 310 ft.; S.D.
Smith-Tex Oil Co.'s No. 1 Starr County Cattle Co., 150 ft. from NW cor. N. ½ Blk. 24, Porcion 89.
T.D. 3,610 ft.; S.D.
Smith-Tex Oil Co.'s No. 2 Starr County Cattle Co., 150 ft. out of NW cor. of E ½ of Blk. 37, Porcion 89.
Drlg. 1,410 ft.; no report.
Sun Oil Co.'s No. 2 E. M. Guerra & Son, 6,000 ft. N of Starr-Jim Hogg County line and 660 ft. from W line of "E" lease.
Drlg. 3,250 ft.
K. L. Younkin's No. 1 Kelsey Bass, 330 ft. from S line, 7 ft. from W line of Blk. 19 in Porcion 87.
Drlg. shale 1,150 ft.

TRAVIS COUNTY

Humble O. & R. Co.'s No. 1 P. C. Wells, 150 ft. NW line, 150 ft. NE line of farm 185 ft. SW line and 1,000 ft. SE line of James P. Kemp Sur.
T.D. 1,425 ft.; S.D.

UVALDE COUNTY

Evans & Johnson's No. 1 Farris, J. Hammons Sur.
T.D. 1,050 ft.; S.D.
Lon Evans' No. 1 Stone, 2,566 ft. from N line and 1,473 ft. from E line of survey 3½ miles NE of Uvalde, Kent. Sur. No. 652.
T.D. 129 ft.; S.D.
Humble Oil & Ref. Co.'s No. 1 R. L. Anderson, 7,450 ft. SW of NE line and 9,100 ft. SE of NW line of J. J. Guerra Sur. (3 mi. NE of Uvalde).
T.D. 2,663 ft.; prep. to sidetrack.
T. T. Word et al's No. 1 Quinn Broden, 2,000 ft. S line and 350 ft. W line of John Young Sur. No. 397.
Drlg. lime 220 ft.
T. T. Word's No. 2 Trulove, 40 ft. N. 47 deg. E. of No. 1.
T.D. 874 ft.; S.D.

WEBB COUNTY

Fidelity Exploration Co.'s No. 1 Soldivar, 1,300 ft. from E line, 2,600 ft. from N line of Sur. 657.
Drlg. 1,999 ft.
Klamor Oil Co.'s No. 1-B Bruni Est., 300 ft. NW line and 418 ft. SW line of Blk. 22, M. Arispe grant.
Derrick.
Weekley Oil Corp.'s No. 1 R. Salvidor, 1,260 ft. from E line and 243 ft. from N line of Sec. 657, Borrego grant (SE part of county).
T.D. 657 ft.; S.D.
Wolcott et al's No. 1 D. Green, 1,865 ft. from W line and 1,552 ft. from N line of Sur. No. 283.
T.D. 450 ft.; S.D.

WILLACY COUNTY

W. W. Silk's No. 1 Stillman, Lot 16, Blk. 30, Santa Rosa Subd., Share 44.
Drlg. gumbo 600 ft.

WILLIAMSON COUNTY

Taylor Ref. Co. et al's No. 1 Pumphrey, 450 ft. N and W lines of 102-ac. tract in W. West Sur.
Derrick.

ZAPATA COUNTY

Robt. Allison's No. 1 E. T. Garza, 150 ft. NE cor. of Blk. 5, in Sur. No. 13.
Rigging up.
Danvers & Harrison's No. 1 M. J. Bela, 686 ft. NE line and 300 ft. NW line, or 3,140 ft. E line and 330 ft. N line of Por. 29, Blk. 7, Bela Subd.
Rigging up.
F. G. Delaney et al's No. 1 Bolpe et al, 330 ft. from N cor. of Blk. 1, Share 1, of Delaney Subd., Portion 32.
T.D. 80 ft.; W.O.C.
Merle Gunby's No. 1 Haines, 200 ft. from SE and SW lines of Blk. 4, Alice Haines Subd., in Cuevitas grant.
Drlg. 400 ft.
H. V. & W. Oil Co.'s No. 1 Cuellar.
T.D. 1,125 ft.; S.D.
Muckelroy's No. 1 Flores, on NE line and 75 ft. from SE line of Lot 2, Blk. 36, Muckelroy Subd. of Porcion No. 37.
Derrick.
Joe Palmer's No. 11 S. Vela, 330 ft. from NE and SE lines of Blk. 170, Share 4 of L. Grillo grant (3 mi. E of Redondo Pool).
Drlg. 300 ft.

Southwest Texas Proven

Week Ending July 28

NORTH DALE POOL—BASTROP COUNTY

Watt L. Saunders' No. 1 Harris, 1,100 ft. from SW line, 2,330 ft. from NW line of John Maximilian Sur. No. 22.
Top Austin 2,149 ft.; T.D. 2,338 ft.; S.D

NORTH PETTUS FIELD—BEE COUNTY

Bryce McCandless' No. 1 Beeville Natl Bank, 330 ft. out of NW cor. of 142-ac. tract in G. B. Meyers Sur.
Building derrick and moving in rig.
Houston Oil Co.'s No. 3-B Niehaus, 259 ft. from NW line and 330 ft. from SW line of "B" lease.
T.D. 3,662 ft.; making D.S. test.
Kemp Oil Co.'s No. 1 Weldon & Lackey, 1,694 ft. from NW line, 1,807 ft. from SW line of 1,000-ac. tract in J. Gomez Sur.
Derrick.
Magnolia Pet. Co.'s No. 4 Porter, 500 ft. W of No. 3 and offset to Sun's No. 1 Scarborough.
T.D. 3,670 ft.; comp. 285 bbls. day; 11/32-in. choke; tubing pressure 110 lbs.; csg. pressure 325 lbs.
Magnolia Pet. Co.'s No. 5 Porter, 330 ft. from S line of lease, 425 ft. from No. 4.
T.D. 3,655 ft.; comp. 250 bbls. day; 13/64-in. choke.
Magnolia Pet. Co.'s No. 6 Porter, 330 ft. from S line of lease, 660 ft. E of No. 3.
T.D. 3,700 ft.; W.O.C.

EAGLE HILL POOL—DUVAL COUNTY

Cloyce and Alpha's No. 1 Hagist, 330 ft. from N and E lines of Blk. No. 18, in Sur. No. 365.
Drlg. 1,335 ft.; no report.

GOVERNMENT WELLS POOL—DUVAL COUNTY

Bridwell Oil Co.'s No. 5 C. W. Hahl, 330 ft. from N and E lines of Blk. No. 28, Sec. 350.
Location.
Bridwell Oil Co.'s No. 1 Schoolfield & O'Brien, 330 ft. from N and W lines of Blk. No. 13, Sur. No. 75.
Drlg. 150 ft.
Govt. Wells Corp.'s No. 1 Lundell, Sur. 60.
Rigging up.
Harrison & Abercrombie's No. 1 Serna, 2,-336 ft. from E line and 936 ft. from S line of Sec. 523.
Rigging up.
Humble O. & R. Co.'s No. 31 Paul White, 3,630 ft. from E line and 990 ft. from S line of Sur. No. 249.
T.D. 2,248 ft.; comp. 15 bbls. hr.; ¼-in. choke.
Humble O. & R. Co.'s No. 32 Paul White, 3,300 ft. from E line and 990 ft. from N line of Sur. No. 249.
Location.
Humble O. & R. Co.'s No. 33 White, 3,630 ft. E line and 330 ft. S line of Sur. 249.
Derrick.
K. O. T. Oil Co.'s No. 4 Lundell, 330 ft. from S and W lines of NW of SW, or 1,750 ft. from S line and 330 ft. from W line of Sur. No. 48.
T.D. 2,241 ft.; W.O.C.
Magnolia Pet. Co.'s No. 1 Duval County Ranch, 330 ft. N line and E line of Sur. No. 58.
Drlg. shale 4,350 ft.
Magnolia Pet. Co.'s No. 7 Duval Ranch, 990 ft. N line and 330 ft. E line of Sur. 59.
Drlg. 715 ft.
Magnolia Pet. Co.'s No. 29 Duval, 1,650 ft. from W line, 2,310 ft. from S line, Sur. 208.
Drlg. 715 ft.
Magnolia Pet. Co.'s No. 1-C Hall, 990 ft. S line and 330 ft. E line of lease.
T.D. 2,373 ft.; swabbing.
Magnolia Pet. Co.'s No. 2-C Hahl, 1,650 ft. from S line and 330 ft. from E line of Sur. No. 61.
T.D. 2,379 ft.; comp. 20 bbls. day.
Magnolia Pet. Co.'s No. 9-A Hahl, 330 ft. from S and E lines of Sur. No. 45.
Location.
Magnolia Pet. Co.'s No. 2 L. B. Moody, 200 ft. S line and 150 ft. W line of NW cor. of SW of Sur. No. 60.
Location.
Magnolia Pet. Co.'s No. 3 Tankersley, 330 ft. from S and W lines of Sur. No. 46.
Drlg. 750 ft.
Reynosa Oil Co.'s No. 8-D Duval Ranch, 990 ft. from W line and 330 ft. from N line of SW of SW of Sur. No. 362.
T.D. 2,287 ft.; comp. 20 bbls. hr.
Russ et al's No. 8-A Hahl, 430 ft. from N line and 230 ft. from W line of NE of SW of Sur. No. 46.
T.D. 2,304 ft.; W.O.C.
J. D. Clair Smith's No. 2 Norton, 330 ft. from S and W lines of Sur. No. 62.
Derrick.
Sun Oil Co.'s No. 65 Welderkehr, Sur. 359.
T.D. 2,280 ft.; testing.
Sun Oil Co.'s No. 66 Welderkehr, Sec. 359.
Cored good show oil 2,285 ft.

SARNOSA POOL—DUVAL COUNTY

E. R. Thomas' No. 1 Well, 330 ft. from SW and NW lines of Sur. No. 130.
Drlg. 2,100 ft.

KINGSVILLE POOL—KLEBERG COUNTY

Ryals & Bartlett's No. 1 Flato, 150 ft. from N line, 30 ft. from W line of NE SE Sec. 40, of Kleberg Town & Improvement Co. Sur.
T.D. 935 ft.; S.D.

JACOB POOL—McMULLEN COUNTY

Kennon's No. 3 Lark, 660 ft. from N line, 330 ft. from E line of E½ of Blk. 15, Scrugham Sur.
T.D. 1,032 ft.; testing.
Loma Oil Co.'s No. 27-A Jacob, 1,320 ft. N. 15 deg. E of No. 22.
T.D. 1,068 ft.; comp. 80 bbls. day on pump.
Loma Oil Co.'s No. 102-A Jacobs, 660 ft. S of No. 101-A, in Sur. No. 3.
T.D. 890 ft.; W.O.C.
Stewart-Smith & Storey's No. 1 L. Jacobs, 3,301 ft. due S of Texlo's No. 3 Jacobs, in John Fadden Sur. No. 8.
T.D. 864 ft.; testing.

CUEVITAS POOL—STARR COUNTY

Sun Oil Co.'s No. 5-C M. Guerra & Son, 1,320 ft. NE of No. 4-C La Sacatosa grant.
Location.

AGUA DULCE—NUECES COUNTY

Camp. et al's No. 2 King, 990 ft. S of N line, 330 ft. W of E line of Sec. 24, R. Garza Sur.
T.D. 6,021 ft.; P.B. to 5,455 ft.; W.O.C. 5,550 ft.
Clymore Prod's No. 2-B J. C. Ingram, 660 ft. from E line, 500 ft. from N line, Sec. 9, Blk. 3, Peters Subd.
Location.
Clymore Prod.'s No. 3 Ingram, 660 ft. from E and S lines, Sec. 4, Blk. 6, Peters Subd.
Derrick.
Clymore Prod. Co.'s No. 3-D Ingram, 660 ft. from S and W lines of Lot No. 7, Sec. 6, Peters Subd. No. 2.
Location.
Clymore Prod. Co.'s No. 1-C Ollie Purl, 660 ft. N and E lines of Lot No. 2, Sec. 7, Peters Subd. No. 2.
Moving in rig.

LOS OLMOS POOL—STARR COUNTY

Goodwin Yantis' No. 6 Kelsey Bass, Sec. 4, Portion 87, Ancient Jurisdiction of Camargo.
Top gas sand 660 ft.; showed for good producer.
Los Olmos O. & G. Co.'s No. 57 Kelsey Bass, 150 ft. from N line, 648 ft. from W line of SE SW Sec. 6, Porcions 75, 76 and 77.
T.D. 640 ft.; standing; depth corrected.

JENNINGS POOL—ZAPATA COUNTY

Texas Co.'s No. 60 Jennings, N 15 deg. 30 ft., E 750 ft. from Clay No. 46.
Oil sand 1,233 ft.

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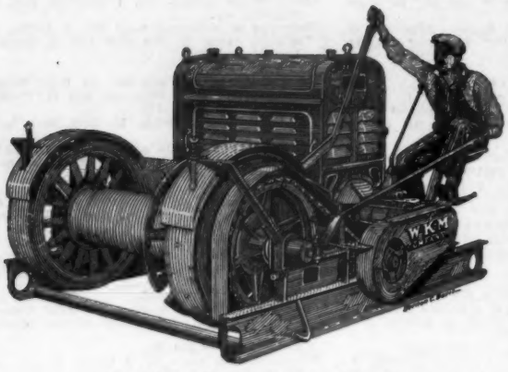
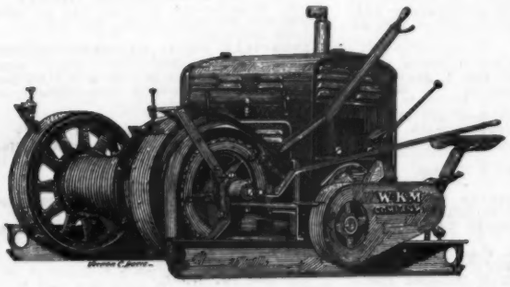


OILWELL SERVICING WINCH
6 Cylinder, 100 H.P. Waukesha Motor
19,400 lbs. Single Line Pull

PORTABLE ROTARY DRAWWORKS
WITH SPUDDING ATTACHMENT
112 H.P.—24,100 lbs. Single Line Pull



OILWELL SERVICING WINCH
6 Cylinder, 54 H.P. Waukesha Motor
19,700 lbs. Single Line Pull

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for a complete line of
OIL FIELD WINCHES

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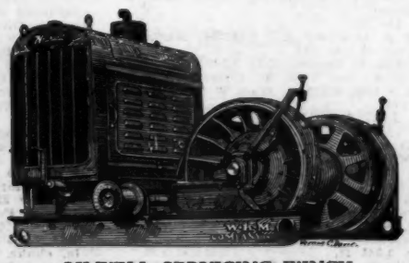
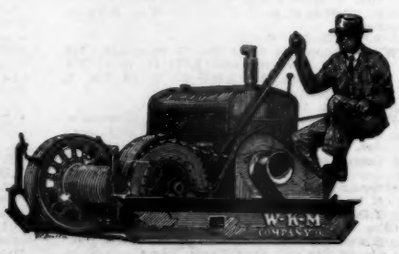


OILWELL SERVICING WINCH
6 Cylinder, 74 H.P. Waukesha Motor
20,600 lbs. Single Line Pull



OILWELL SERVICING WINCH
6 Cylinder, 42.5 H.P. Waukesha Motor
17,250 lbs. Single Line Pull

Will Try to Keep Oklahoma's August Production to Allowable; Remarkable Lease Output

By JAMES McINTYRE

In the proration department in Oklahoma City it is believed that Oklahoma will finish up in August with a month's production record within the allowable set by the government and the corporation commission which is 480,100 bbls. per day.

The commission made a reduction of 3 per cent on all prorated areas, together with South Burbank, the Naval Reserve and Chandler Fields, and a revision of the proration in the wildcat areas will also help to scale the output down to the allowable. The unprorated areas of the state will be allowed 195,621 bbls. per day.

Percentage Production

The following compilation, shows by districts, the allowed daily production, the percentage of potential allowed, and the potentials as of July 1, in barrels:

Pool or Zone	Prod.	Pot.
Wilcox	123,593	1,905,186
Simpson*	40,431	x 149,501
Fault Line*	1,350	4,115
Ttl. Okla. City	165,373	2,058,832
Seminole and others	62,086	120.061
Maud	950	1,261
St. Louis	18,533	55,947
Asher-Wanette	1,423	1,517
Konowa	1,808	2,515
Saskawa	771	1,261
Allen	7,158	10,995
Saskawa Township	1,468	13,446
Calvin Sand	1,331	5,218
Tatums	6,340	17,415
Fish	1,965	2,805
Total Class B	145,664	2,780,087
Crescent	4,317	67,963
Lucien	8,633	90,000
Keokuk Falls	1,295	13,760
Simpson Sand	278	722
Total Class C	14,523	172,445
County Line 500	(50 bbls. per well)	
Orlando 150	(50 bbls. per well)	
Lucien (Hunton) 50	(50 bbls. per well)	
Total Class D.....	700	.....
Total Prorated	284,479	x 2,355,718

*Simpson and Fault line zones of Oklahoma City are in class B rating. x—estimated potential.

The commission recognized the existing agreements between operators in the South Burbank, Naval Reserve and Chandler areas, and ordered monthly reports to be made by producrs and pipe line companies in these and the John Fitts, West Konawa and Wilzetta areas.

South Burbank, which was prorated to 200 barrels per day, is to be cut to 194 barrels per well. The Naval Reserve, also under federal jurisdiction, was granted a total of 8,245 bbls. per day from the field, there being both flush and stripper wells to be considered. Chandler's prorated wells will be cut from 200 to 194 bbls. per well per day; the stripper wells in this area going free.

The Denver Producing & Refining Co. has been obliged to abandon its test in C SE SW Section 22-5-1, McClain Country in first Wilcox sand at 6,352 feet, because 1,000 feet of drill pipe was lost in the hole. There had been no showing of oil or gas in the test. The crew was pulling pipe.

Blackwell Oil & Gas Co.'s and others' test in C NW SW SW Section 29-7-8, close to the Hughes-Seminole County line, found Wapanucka lime at 2,990-3,050 feet, and the well flowed 450 bbls. a day. It was then put on the swab and in the first three hours made 90 bbls.

Shaffer and the Mid-Continent Petroleum Corp.'s No. 1 C SW SW SE Section 11-17-1w, in the Langston Pool, was flowing 135 bbls. a day at the close of the week, producing from first Wilcox sand at 5,104-24 feet.

Big Per Acre Production

One hundred and sixty acres of land in the Oklahoma City Field, which was worth little or nothing for any other purpose, has produced 100,000 bbls. of oil per acre. It is the NW of Sec. 2-11-3w and is within the city limits. Forty-five wells were drilled on the tract, there having been no restrictions as to drilling. Outside of the city limits the custom has been to drill no more than one well to 10 acres. Forty acres in Section 22-11-3w, the NW SE had 23 wells on it, or one well to every 1.74 acres and on this tract 3,719,801 bbls. was recovered or an average of 92,995 bbls. to the acre. This is a town lot development.

A Remarkable Lease

The first producer on the best lease in the Sminole area has just about seen its last days. The Pure Oil Co.'s No. 1 Strothers A, NE SW Section 26-9-6, which was originally completed in the Wilcox sand for 5,030 bbls. in October, 1926, deepened 20 feet to a total depth of 4,149 feet, in March, 1927, shot with 20 quarts and increased production from zero to 3,383 bbls. on air lift, has now been plugged back and completed at 4,110 feet at which depth it was acidized to yield 5 bbls. oil and 15 bbls. water on the pump. The Strothers "A" lease of 160 acres has produced over 10,000,000 bbls. of oil to date, or about 62,500 bbls. per acre.

Osage County

Carter Oil Co. and others' No. 1 Munza, SW NW Section 2-25-6, east side of South Burbank Field, gauged 659 bbls. in 24 hours from Bartlesville sand found grom 2,820-78 feet. It has not been completed.

Champlin Refining Co.'s No. 6 Maker, NW NE NE Section 15-25-6, the first well to produce from the chat formation in the South Burbank Field, made 105 bbls. on the pump for its largest one day's production. Chat was had from 2,918-41 feet, total depth.

The second well to produce from the chat in this field is Chaplin Refining Co.'s No. 2 Terrill, NE NW SE Section 15-25-6, which was tested a hole full of water in the Hominy sand from 3,233-56 feet, total depth, and later plugged back to chat 2,890-2,911 feet, to produce 15 bbls.

Phillips Petroleum Co. in its No. 7 Bean, NW cor. Section 15-25-6, failed to get a shut off with the 6-inch casing and 5-inch was set with packer at 2,827 feet. Burbank sand 2,802-34 feet, filled the hole 1,500 feet with oil.

The Texas Co.'s No. 11 C E half SE Section 30-25-8, had 400 feet of water in hole at 2,516 feet, total depth, and was plugged back to 2,502 feet. Bartlesville sand 2,472-77 feet was shot with 5 quarts to swab 9 bbls. of oil. It had not been completed.

Champlin Refining Co. has completed No. 18 Kennedy, SW NE SE Section 16-24-7, Naval Reserve Pool, for 275 bbls. Bartlesville sand at 2,608-50 feet, total depth, was shot with 50 quarts.

Same company completed No. 5 Others, NW NE NW Section 16-24-7. A 20-quart shot in Bartlesville sand at 2,654-85 feet, total depth, resulted in the well flowing 387 bbls. of oil in 20 hours.

Champlin Refining Co.'s No. 6 Others, NE NW NW Section 16-24-7, found Bartlesville sand at 2,632-67 feet, and flowed 170 bbls. the first 6 hours after a 20-quart shot. It was to be tested further.

Southwest of the Naval Reserve Pool, Norbla Oil Co. got a failure in its wildcat test, NW SE Section 31-24-7. It was drilled to the Mississippi lime 2,858-60 feet, total depth, which carried water. It was abandoned.

The Texas Co.'s deepening of its No. 1, SE NW Section 12-23-7, to the Siliceous lime 2,867-91 feet, total depth, resulted in the well flowing 232 bbls. in 24 hours from that formation. It is a completion.

W. C. Norris is getting a well in No. 2, CWL NE NW SE Section 29-21-11. Sand from 1,960-62 feet produced 2,500,000 feet of gas with a spray of oil. It had not been completed.

Estimated Production

Estimated daily average production of Oklahoma in the week ending July 28, and for the preceding week follows:

	Barrels	
	July 28	July 21
Allen	8,085	8,105
Blackwell district	5,000	5,000
Bristow-Slick	10,700	10,400
Cushing-Shamrock	14,600	14,600
Chandler district	7,000	7,000
Davenport	750	750
Healdton	9,250	9,150
Hewitt	4,950	4,950
Burbank	9,300	9,300
South Burbank	6,400	6,400
Balance of Osage	30,000	30,000
Lucien	8,070	8,430
Crescent	5,400	4,035
Marshall-Lovell	1,300	1,250
Bowlegs	11,445	12,115
Carr City	5,845	6,720
Earlsboro	10,635	9,410
East Earlsboro	10,610	10,470
South Earlsboro	1,015	1,130
Little River	14,825	15,400
East Little River	765	905
Seminole	11,435	12,275
East Seminole	1,045	1,285
Searight	2,205	2,675
Maud	1,200	1,175
Mission	3,255	3,090
St. Louis-Pearson	24,770	27,830
Cromwell	4,775	4,775
Papoose	1,250	1,250
Oklahoma City	154,595	190,135
Asher-West Asher	1,735	1,820
Tatums	6,500	7,045
Sholem-Alechem	4,400	4,475
Duncan	4,600	4,700
Tonkawa-Garber-Thomas	6,700	6,700
Fish	3,585	3,035
Konawa	2,250	2,310
Gray	2,125	2,195
Graham	3,750	3,800
Holdenville	3,165	3,225
Wewoka	4,500	4,450
Yale-Jennings	5,100	5,100
Other pools	64,847	66,759
Total	491,730	535,675

Wildcat Operations in Oklahoma

Week Ending July 28

NORTHERN OKLAHOMA

ALFALFA COUNTY

Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w.
T.D. 6,460 ft.; lost tools and S.D.

BECKHAM COUNTY

Price and Watchorn O. & G. Co.'s No. 1 Hoard, NE SW Sec. 17-8-26w.
Drlg. 1,506 ft.

CADDO COUNTY

Denver Prod. & Ref. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w.
T.D. 11,230 ft.; drill pipe stuck; flows oil and water; no estimate.

CLEVELAND COUNTY

Phillips Pet. Co. et al's No. 1 Baker, C SE NW Sec. 11-9-2w.
Drlg. 7,177 ft. in Viola lime.

COAL COUNTY

Moore & Deaner's No. 1 Edward, NW NE SE Sec. 27-2-8.
S.D. 4,970 ft.

GARFIELD COUNTY

Ross Cummings et al's No. 1 Gage, SE NW Sec. 27-22-3w.
Spudded and S.D.

GRADY COUNTY

Western Oil Co., Inc.'s No. 1 Carter, NW NE SE Sec. 32-3-7w.
Sand 1,550-60 ft.; show gas; sand 1,565-75 ft., show gas; drlg. 2,425 ft., shale.

GRANT COUNTY

W. Earl Witt et al's No. 1 Patton, SW SE Sec. 19-29-3w.
Cellar and pits.

HARPER COUNTY

Sinclair Prairie Oil Co.'s No. 1 Neff, NW SE Sec. 21-26-24w.
T.D. 265 ft.; S.D. for water.

HUGHES COUNTY

Dickison et al No. 1 Webster, NW NE Sec. 22-10-10.
Rig on ground.

J. B. Hill's No. 1-A Perkins, C W½ SW SW Sec. 7-5-9.
T.D. 1,075 ft.; S.D.

Olympic Oil Co.'s No. 1-A McClassen, SE NW NW Sec. 12-9-8.
Cromwell sand 3,433 ft.; T.D. 3,478 ft.; 40,000,000 ft. gas, flowed 142 bbls. 7 hrs.

Olympic Oil Co.'s No. 1 McClassen, SE NW NW Sec. 12-9-8.
T.D. 600 ft.; lost tools; S.D.

Smith et al's No. 1 Farmer, SE NW Sec. 32-5-9.
C.O. 600 ft.

Turner et al's No. 1 Williams, SW cor. Section 35-7-10.
Rig.

KAY COUNTY

Carter Oil Co.'s No. 1 Cline, SE SW SE Sec. 16-28-5.
Drlg. 1,760 ft.

KINGFISHER COUNTY

Jadeka Dev. Co.'s No. 1 Frakes, C SW NE SW Sec. 16-18-8w.
Drlg. 5,112 ft.

KIOWA COUNTY

Bailey & Johnson's No. 1-A Potts, CEL NW NW SW Sec. 31-7-14w.
S.O. and H.F.W. 330 ft.; U.R. 8-in. csg.

LEFLORE COUNTY

East Okla. O. & G. Co.'s No. 1 Metcalf, SW cor. Sec. 2-4-26.
C.O. 1,575 ft.

Murdock et al's No. 1 fee, SW NE SW Sec. 15-5-25e.
T.D. 2,425 ft.; drlg. by tools.

LINCOLN COUNTY

Mid-Continental Oil Co.'s No. 1 Bolby, C SE SW Sec. 27-12-2.
Rigged up; laying gas line.

L. G. Hulse's No. 1 Sloan, SW NW SE Sec. 19-17-3.
Drlg. 843 ft. in new hole.

Texas Co.'s No. 1 Gessmann, SE NE Sec. 33-14-4.
Wilcox 4,999-5,002 ft.; H.F.W.; P.B. and ripped pipe around 3,800 ft.; flow 305 bbls. oil between 3-in. pipe and surface csg.; Cleveland sand 3,040-50 ft.; ripped csg.; est. 10,000,000 ft. gas, spray oil.

LOGAN COUNTY

W. N. Anthony's No. 1 Fruin, SE SW Sec. 4-16-1.
Show oil 5,253-59 ft. in dolomite; T.D. 5,285 ft. in Wilcox sand; set 8-in. csg. 5,181 ft.

Gypsy Oil Co. and Sinclair Prairie O. & G. Co.'s No. 1 Graham, C NW NW Sec. 3-17-4w.
Cellar.

McCLAIN COUNTY

Denver P. & R. Co.'s No. 1 Newburn, C SE SW Sec. 22-5-1.
Drlg. 6,300 ft. in Simpson.

NOBLE COUNTY

Continental Oil Co.'s No. 1 Bennett, SE NW Sec. 19-20-1w.
T.D. 5,232 ft.; to P.B. to first Wilcox and test show; S.D.

Magnolia Pet. Co.'s No. 1 Crawford, SE NW Sec. 27-21-2.
Bartlesville 4,094-4,109 ft., dry; drlg. 4,418 ft.

(Continued on Next Page)

Northwestern Fields

In the Garber Pool, Garfield County, Sinclair Prairie Oil Co.'s No. 5 E. Kesner, SW NE Section 19-22-3w, an old well deepened to the Hotson sand 1,442-58 feet, total depth, was good for 20 bbls. per day on pump after sand was shot with 5 and 7 quarts. It was completed.

The Polo Pool discovery well, Texas Co., Stanolind Oil & Gas Co. and Darby Petroleum Co.'s No. 1 Voss, SW NE SE Section 28-22-2w, Noble County, encountered a show of water in the second Wilcox sand 4,899-4,919 feet, total depth, and was being plugged back to the first Wilcox, which sand had produced 1,447 bbls. for its largest one day's gauge to date.

The wildcat test of Continental Oil Co., No. 1 Bennett, SE NW Section 19-20-1w, about 4 miles east of the Lucien Pool, was shut down at a total depth of 5,232 feet in white sand. This test will probably be plugged back to test Wilcox sand 5,106-15 feet.

At the present time there are 12 operations of various kinds under way in the Lucien Pool, none of which had anything of an unusual nature to offer dur-

ing the past week. However, two wells were showing for producers. The Carter Oil Co.'s No. 2 Henn, C SW SE Section 29-20-2w was making a small flow every 15 minutes from first Wilcox sand 5,024-29 feet, total depth, with swab and 1,500 feet of wire line in the hole.

Shell Petroleum Corp.'s No. 1 Henn "A," C NE NE Section 32-20-2w, had 2,000 feet of oil in hole from first Wilcox sand topped at 4,957 feet and drilling was in progress at 5,063 feet.

Gypsy Oil Co.'s No. 1 Verna, C NE SE Section 29-20-2w, which was on production last week, has been deepened to 5,147 feet, total depth, and production increased from 735 bbls. to 972 bbls. Production is from the second Wilcox sand 5,069-5,147 feet. It is shut in.

L. H. Wentz Oil Co.'s No. 1-A (Twin) Mussetter, CEL W half SE SW Section 5-28-1, in the old Dilworth Pool of Kay County, was drilling 140 feet; Mid-Continent Petroleum Corp.'s No. 1 Smith, SE SW NE Section 28-22-2w, Polo Pool of Noble County, cellar.

Logan County.

Eason Oil Co. passed up the Layton sand showing in its No. 3 Katscher No. 2, NW SW SW Section 34-17-4w, Crescent Pool of Logan County, and last Friday was drilling ahead at 5,505 feet. In its other 10-acre location, No. 2 Katscher No. 1, C NW NE SW Section 34-17-4w, Eason Oil Co. set 15-inch pipe at 178 feet and was drilling ahead at 200 feet.

W. N. Anthony's No. 1 Fruin-Eckman, SE SW Section 4-16-1e, wildcat test, was shut down to cement 8-inch casing at 5,181 feet. Wilcox sand from 5,265-85 feet, total depth had a small show of oil.

Standard cable tools were being rigged up on the Mid-Continent Petroleum Corp.'s No. 1 Moss, SW SE Section 11-17-1w, Langston Pool. Wilcox sand from 5,104-24 feet yielded 397 bbls. the first 13 hours.

The Texas Co. and Stanolind Oil & Gas Co.'s No. 1 Smith, NE NW Section 14-17-1w, was shut down at 3,525 feet for water.

Logan County registered two very interesting locations, one of which is in the vicinity of the Crescent Pool. Eason Oil Co. has staked location for a test in the C N half NE NE Section 4-16n-4w and Gypsy Oil and Sinclair Prairie Oil Co. staked one in the C NW NW Section 3-17n-4w, the latter being in wildcat territory.

Lincoln County

Blackwell Oil & Gas Co.'s No. 1 Ladd, SE NE NW Section 23-17-6, found dry Bartlesville sand from 2,150-80 feet, topped the Mississippi lime at 2,954 feet and was drilling ahead at 2,955 feet.

Magnolia Petroleum Co. got a nice producer in its No. 4 Benedict, SE SW NW Section 7-14-4e, Chandler Pool, the well gauging 2,057 bbls. in 24 hours from Wilcox sand 5,086-5,100 feet, total depth, It was a completion.

South of the Chandler Pool, The Texas Co.'s No. 1 Gessman is still a puzzle. This wildcat test drilled to a total depth of 5,002 feet, 12 feet in Wilcox sand, which produced a hole full of water, was plugged back and started producing oil and gas when pipe was split around 3,800 feet. An increase in production was had when pipe was ripped at 3,040 feet, producing an estimated 10 million gas and spray of oil. Production is thought to be coming from the Cleveland sand logged at 3,040-50 feet. Preparations are being made for a production test.

Creek County

Creek County operations resulted in seven wells being completed during the last week, four of which were dry holes and three of which were oil wells.

Commercial Drilling Co.'s No. 2 Johnson, SE NE SW Section 5-19-8, had Skinner sand from 2,021-38 feet, yielding 10 bbls. of oil after a 70-quart shot. It was completed at a total depth of 2,050 feet.

Johnson Oil & Refining Co. got a dry hole in its No. 3 Heneha, NE SW SE Section 11-19-9, getting Layton sand from 1,156-1,240 feet, total depth, which was broken with a slight show of oil.

L. B. Jackson's No. 1-A Hawkins, NW NE SW Section 10-18-8, was dry and abandoned after Skinner, Red Fork and Bartlesville sands all failed to produce. Bartlesville sand logged from 2,806-2,903 feet, total depth, carried a hole full of water.

In the Olive Pool, Todd & Williby's No. 1 Brown, SW NW Section 34-18-8, failed to get the Red Fork and Bartlesville sands after the Layton sand 1,355-95 feet failed to produce, and was dry and abandoned at a total depth of 2,707 feet in lime.

In the south end of the Olive Pool, Bay State Oil Co.'s No. 2 Lasley, SE NW Section 3-17-8, was good for 125 bbls. on flow and swab after Layton sand 1,372-78 feet was shot with 120 quarts. It was completed at a total depth of 1,401 feet.

Illinois Refining Co. abandoned its No. 1 Littlehead, SE SW NW Section 18-17-9 when water started filling the hole. Bartlesville sand was from 2,365-2,400 feet, total depth.

The J. H. Wright Estate's No. 1-A Lewis, SE NW Section 19-17-11, found sand from 1,840-60 feet, total depth, which produced 30 bbls. after a 90-quart shot. It was completed.

First reports for Creek County follow: Mid-Co Oil Co.'s No. 7 Lands, SW SE SE NW Section 12-18-11, spudding; Magnolia Petroleum Co.'s No. 7 Street, CSL SW NE Section 3-17-8, building rig; Jones, Doss and others' No. 1 Wright, NE SW SE Section 35-17-9, rigging up; Roos and Freeland's No. 1-A Gates, (Wilcox test) CEL SE Section 21-16-9, building rig; Bryan Petroleum Co.'s No. 3 Wilson, SW NE NE Section 21-15-8, spudding.

Oklahoma County

Near Edmond, Mid-Kansas Oil & Gas Co.'s No. 1 Dahl, SE cor. Section 31-14-3w, cored saturated Wilcox sand from 6,385-93 feet, total depth, and in an attempt to complete with cable tools, gas estimated from 40 to 70 million feet, lifted tools, snapped the line and resulted in a fashing job and decision to complete with rotary tools.

The south offset to the above well, Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Seuneram, NE cor. Section 6-13-3w, had Dolomite from 6,384 to 6,455 feet, total depth, which was heavily laden with gas. It is now shut in with 1,500 lbs. presure while preparations are being made to drill in with rotary tools.

Gypsy Oil Co. and others' No. 1 Grant, C SE NW Section 27-13-4w, wildcat test near Britton, and a Wilcox sand failure at 7,482 feet, total depth, was being plugged back to test a show in the Pennsylvania at 6,798 feet.

In the Oklahoma City Field, the Travis Petroleum Co. has started spudding its No. 1 Lucas, NW NE SW Section 36-12-3w, which is on Phillips Petroleum Co. farmed out property and one-half mile northeast of the nearest production in the field.

Harper-Turner's No. 1 Harrison, SE NW NE NW Section 22-11-3w, was an abandoned location with the rig moved away.

In the south end of the field, Indian Territory Illuminating Oil Co.'s No. 11 Oklahoma State, NW cor. Section 36-11-3w, had dry Wilcox sand from 6,487-95 feet. Simpson formation from 6,555-6,640 feet, total depth, produced 66 bbls. through tubing in 4 hours on gas lift for its potential gauge. It was completed.

In the north end of the field, J. J. Hardin and others' No. 1 Simpson, SW NW SW SE Section 34-12-3w, was shut in after producing 4,053 bbls. in 24 hours from Wilcox sand found from 6,336-6,495 feet, total depth.

Only one new location was made in the big field over the week, Anderson & Kerr's No. 1 Earps, SE NE NE Section 22-11-3w, rigging up rotary.

Cleveland County

The wildcat test of Phillips Petroleum Co. and others' No. 1 Baker, C SE NW Section 11-9-2w, Cleveland County, topped Sylvan shale at 6,983 feet, Viola at 7,110 feet and was drilling in it at 7,177 feet, running low and looking like a failure.

Tulsa-Okmulgee-Wagoner District

With approximately 70 operations of various kinds under way in this area only four came through for completions during the last week as compared with three new starts.

Cummings Bros.' No. 2 Bruner, C SE NW Section 27-17-13, found Wilcox sand from 2,004-10 feet, total depth, to produce 10 bbls. on the pump. It was completed.

Harmon Bros.' No. 1 Harjo, NE cor. Section 7-15-12, was dry and abandoned at 613 feet, total depth. Shallow sand from 593-613 feet had a hole full of water.

M. S. Mussellem's No. 1-A Garrett, SE cor. Section 28-15-18, was shot with 30 quarts in Muskogee sand 1,090-98 feet, total depth, to produce 40 bbls. of 43 gravity oil. Stanolind Pipe Line is connected.

McGirl & Sherry's No. 1 McGee, C SW SW Section 8-10-14, had a hole full of water in sand from 1,816-25 feet and was dry and abandoned at a total depth of 1,829 feet.

First reports in this area consisted of: Sam Kuns' No. 2 Barnett, SE NW SE Section 13-18-14, spudding; Harmon Bros.' No. 1 Doyle, SW cor. Section 5-15-12, drilling 150 feet; Steckol & Durkee's No. 2 Johnson, SE NW SE Section 2-10-11, shut down at 565 feet for water.

Greater Seminole Activity

Carter Oil Co. and others' test, No. 2 Riddle, C S half NE SE Section 35-11-6, Keokuk Falls Pool of Seminole County,

(Continued on Page 79)

Wildcat Operations in Oklahoma

(Continued from Preceding Page)

Texas Co. et al's No. 1 Voss, SW NE SE Sec. 28-22-2w.
Wilcox 4,816-59 ft.; flowed 927 bbls. in 23 hrs.; second Wilcox 4,899-4,919 ft., T.D., water; P.B. to 4,880 ft.; flowed 1,296 bbls. from first Wilcox.
Vaughn Dev. Co.'s No. 1 Loula, NE SE SW Sec. 16-22-1.
Drlg. 920 ft.

OKFUSKEE COUNTY

Carter Oil Co.'s No. 1 W. H. Dill, C NW SE Sec. 2-11-8.
T.D. 3,083 ft.; to core.
Dalton Oil Co.'s No. 1 Fixico, SE cor. Sec. 7-11-8.
Cromwell 3,628-40 ft., dry; drlg. 3,782 ft.

OKLAHOMA COUNTY

Gypsy Oil Co. et al's No. 1 Grant, C SE NW Sec. 27-13-4w.
Wilcox 7,472-82 ft., T.D.; drlg. plugs.
Springrose Drlg. Co.'s No. 1 Edwards, C SE Sec. 19-11-1.
T.D. 6,640 ft.; 400 ft. drill pipe in hole. S.D.

OSAGE COUNTY

Norbla O. & G. Co.'s No. 1, NW SE Sec. 21-24-7.
Bartlesville sand 2,687-2,788 ft., dry; Miss. lime 2,858-80 ft., T.D.; dry and abnd.
Peters Pet. Co. and Norbla Oil Co.'s No. 1, SW cor. Sec. 15-25-5.
S.D. 1,712 ft. for wtr.
Empire O. & R. Co.'s No. 1, SE NE Sec. 2-25-3.
Bartlesville sand 3,356-68 ft., broken and dry; chat 3,443-70 ft., dry; Miss. lime 3,470 ft.; drlg. 3,605 ft., lime.

PITTSBURG COUNTY

Arkhoma's No. 1 Cummings, NW NE SE Sec. 6-4-12.
Drlg. 1,490 ft.
Exchange Drlg. Co. et al's No. 1 Chunn, SE NW Sec. 29-4-14.
T.D. 350 ft.; waiting for csg.
W. E. Hailey's No. 1 Drew, NW SW Sec. 21-3-14.
S.D. 190 ft.
Moffett & Hall's No. 1 Jones, C NE NW Sec. 14-8-14.
Lost tools; T.D. 3,210 ft.; S.D.

PONTOTOC COUNTY

E. M. Blanchard's No. 1 Crabtree, NE SE NE Sec. 27-2-6.
S.D. 2,920 ft.
Boyle et al's No. 1 Newbern, SW NE Sec. 21-5-4.
T.D. 2,237 ft.; hole full sulphur wtr.; S.D.
Emanuel, Rudman & Hatcher's No. 1 Mayer, SW SE NW Sec. 7-3-3.
S.D. 1,525 ft.
Jarrett Pet. Co.'s No. 1 Johnson, SE NW Sec. 28-4-4.
T.D. 1,100 ft.; rebuilding rig.
Dandridge et al's No. 1 Stafford, NW cor. Sec. 5-1-6e.
T.D. 660 ft.; S.D.
Gillette & Kroeger's No. 1 Duver, NW SE Sec. 36-1n-6e.
Drlg. 290 ft.
Riddle et al's No. 1 Barnes, SE NW SE Sec. 21-5-4.
T.D. 2,910 ft.; S.D. for water.
Southern Oil Corp's No. 1 Ladd, C NW NW Sec. 27-3-7.
Cellar.

POTTAWATOMIE COUNTY

W. D. Grisso et al's No. 1-A Kenyon, C NE SE Sec. 3-9-4.
Rig.
Phillips and Gypsy Oil Co. et al's No. 1 Flynn, NE NW Sec. 17-6-3.
Drlg. 4,095 ft.
Stanolind-Amerada's No. 1 Goodman, SW NE NE Sec. 8-10-4.
Cored show oil 4,420-40 ft.; T.D. 4,453 ft.; changing to steam power.

SEMINOLE COUNTY

Harman Oil Co.'s No. 1 Bowlegs, SE NE SW Sec. 1-7-7.
T.D. 1,655 ft.; C.O.
Harris and Haun's No. 1 Harjo, NE SE NW Sec. 11-6-6 (O.W.D.D.).
Old T.D. 2,935 ft.; set ing whipstock.
Moran et al's No. 1 Brinlee, SW NE Sec. 27-6-5.
Rig.
Tate & Starbuck's No. 1 Heard, SE NW Sec. 9-6-7.
Drlg. 210 ft. in new hole.
Wrightsman Oil Co.'s No. 1 Smith, NW SE Sec. 25-10-7.
Drlg. 3,490 ft.

WASHITA COUNTY

Anadarko Basin Oil Co.'s No. 1 Wolf, NE SW Sec. 23-9-17w.
Rigged up and S.D.

Okla.-Midwestern Oil Co.'s No. 1 Dock, SW cor. Sec. 21-8-18w.
Drlg. 2,340 ft.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Brookshire et al's No. 1 Rowland, NW NE NE Sec. 18-3s-10e.
Drlg. 3,691 ft.
J. D. Boukan's No. 1 Howard, NW SW NW Sec. 20-2s-10e.
S.D. 1,135 ft.; machine moved out.
L. A. Pitts' No. 1 Blankenship, NE cor. NW Sec. 19-3s-10e.
T.D. 651 ft.; S.D.
Malernee et al's No. 1 Greenville, N. B., NW SW Sec. 36-2s-13e.
Sand, show oil 2,128-35 ft.; T.D. 2,150 ft.; S.D.
T. C. Ramler et al's No. 1 Roberts, SW SE SW Sec. 6-2s-12e.
Drlg. 145 ft.

CARTER COUNTY

Daphine Oil Co.'s No. 1 Hooks, SE NW NW SE Sec. 5-1s-2w.
Show oil 1,075-1,185 ft.; T.D. 1,350 ft.; S.D.
Hudson & Poland's No. 1 Sullivan, NE SE Sec. 5-5s-1w.
Sand 2,938-58 ft.; S.O.; drlg. 3,720 ft.
McHenry et al's No. 1-A Ratliff, NW SW Sec. 28-1s-2w.
Sand, 540-606 ft., T.D.; est, 6 bbls. oil; rigging to pump.

COMANCHE COUNTY

F. F. Stevens' No. 1 Green, SE SW Sec. 2-1-13w.
T.D. 1,120 ft.; C.O.
Heiden & Taylor's No. 2 Crutcher, C NE Sec. 11-1n-12w.
S.O.&W. 650 ft.; drlg. 660 ft.

GARVIN COUNTY

National Prod. Co.'s No. 1 Littrell, NE cor. Sec. 31-2n-3w.
S.D. 351 ft.

JACKSON COUNTY

Gypsy Oil Co.'s No. 1 Kelly, NE cor. Sec. 10-1n-20w (O.W.; P.B.).
Old T.D. 2,084 ft.; P.B. 1,688 ft.; sand 1,680-88 ft.; 22 bbls. oil in 6 hrs.; prep. to abandon.
Gypsy Oil Co.'s No. 1-A (Twin) Kelly, NE cor. Sec. 10-1n-20w.
Cellar and pits.
Ben Russell et al's No. 1 Unknown, NW SE Section 30-1-22w.
Spudding at 20 ft.

JEFFERSON COUNTY

Geo. Pace et al's No. 1 Jack, NE NW NW, Sec. 10-4s-4w.
Gas show 1,510-12 ft. and 1,804-18 ft.; T.D. 1,869 ft.; S.D.

JOHNSON COUNTY

Okla. Oil Corp.'s No. 1 Tubbi, SW NE SE Sec. 11-2s-8.
At 2,061 ft. est. 1,000,000 ft. gas; 2,150 ft., H.F.W.; Hunton lime 2,445-50 ft., T.D.; S.D.

MARSHALL COUNTY

Nunn and Stinnett's No. 1 Lindecker, NW cor. Section 7-8s-6e.
Drlg. 160 ft.
Paul Richardson's No. 1 Ayers, NE SE Sec. 30-7s-7e (O.W.D.D.).
Old T.D. 906 ft.; deepened to 1,005 ft., T.D.; dry and abnd.
Paul Robb's No. 1 Vittetoe, C NE SE Sec. 11-5s-4e.
T.D. 4,937 ft.; S.D. for wtr.

MURRAY COUNTY

Gilcrease Oil Co.'s No. 1 Brown, SW cor. Sec. 26-1n-2e.
Salty sand (Wilcox?) 1,724-38 ft.; drlg. 1,738 ft.
T. E. Revell et al's No. 1 Wolfe, NE cor. Sec. 15-1-2.
Drlg. 2,529 ft., lime.

PUSHMATAHA COUNTY

J. V. Scrivener et al's No. 1 Swink, C NE SE Sec. 29-4s-20e.
Set csg. 410 ft. S.D.

STEPHENS COUNTY

Carter Oil Co.'s No. 1 Hildebrand, C SW SE NE Sec. 1-2s-7w.
S.O. 1,023-26 ft.; T.D. 2,372 ft.; repairing engine.
Carter Oil Co.'s No. 1 McCasland, C NW NW SW Sec. 23-1s-4w.
Rig up.
J. W. Madison's No. 1 Tussey, SW SE NW Sec. 24-1n-4w.
S.D. 3,220 ft.

TILLMAN COUNTY

J. H. Everett's No. 1 Crane, SW cor. Sec. 15-2s-14w.
Rig.

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Among Gulf Coast Drilling Contractors

In Uvalde County, near Sabinal, Talbot Drilling Co. has shut down at 900 feet on its well for T. T. Word, trustee. The bit encountered a loose lime formation and returns were lost. T. T. Word, trustee, has moved in a spudding machine on a new location about 3 miles from the original hole, and has drilled to 300 feet. Two shows of gas and one small show of oil were encountered in the first 100 feet. It is probable that, if the second well is completed as a producer, the spudding machine will be moved back to the original well, now standing at 900 feet, and used to deepen. Humble Oil & Refining Co. also has a combination rig drilling about 4 miles south of T. T. Word, trustee. It is reported that considerable trouble with porous lime formations have also been encountered in this well. Talbot has set surface casing in its well for the Sayre Oil Co. in north Montgomery County, and has one rig engaged on a workover job for the same company in the South Liberty Field.

Carl B. King has nine rigs running at this time in widely scattered sections of the Mid-Continent. He has one rig in East Texas for the Harmon Oil Co.; one at Welch, La., for the Tide Water Oil Co.; one at Sinton, San Patricio County, for the Petrol Corp.; one in the Eunice, N. Mex., area, for the Sinclair-Skelly interests; one in Jal, N. Mex., for the General Crude Oil Co.; one in Jal, N. Mex., for the Phillips Petroleum Co., and three in Ada, Okla., district.

Steen Drilling Co. has two rigs running in Ector County for the Landreth Production Co., and one rig running on its own properties in the Converse, Louisiana, Field.

Jess Fowler is drilling below 4,200 feet in a well for Allied Minerals Corp., No. 1 J. R. Farmer, Boling Dome, James Scott League, Fort Bend County.

Loffland Brothers have placed orders for a quantity of new equipment to be used at Bosco, Louisiana, on contract work for the Superior Oil Co. They have ordered crown blocks, traveling blocks, hooks, swivels, drawworks and engines of the special heavy California type manufactured by the Union Tool Co. for four rigs, all of which will be installed as wells are completed and as delivery is made. The company presently has three rigs running in the Bosco Field for Superior and is moving in a fourth rig. Superior Oil Co. has two heavy rigs of its own drilling on its properties in the Bosco Field.

C. & C. Drilling Co. has a rig over No. 1 Davis-Holmes, discovery well of the Livingston, Texas, Field, for the Gem Oil Co. An effort will be made to convert this well into an oiler. It was originally drilled by Dick Schwab, and completed as a wet gasser from which a very considerable quantity of casinghead gas has been extracted. Since then a number of oil wells have been completed in the near vicinity. C. & C. Drilling Co. has set 517 feet of 10-inch surface casing on a well for the Gem Oil Co. near Needville, Fort Bend County, Texas. This is a wildcat.

Steen Drilling Co. has two rigs running for the Landreth Production Co., one in Ector County and one in Andrews County. The company also has one rig running in the Converse, Louisiana, Field on its own properties.

R. A. Wolfe is drilling one well in Livingston Field, Polk County, and one well in East Texas. Both wells are on properties owned by the company.

Rutherford Drilling Co. is rigging up to drill No. 2 Cobb for the Skelly Oil Co. at Van Vleck, Matagorda County, Texas. No. 1 Cobb, discovery well of this field, was completed as a wet gasser several months ago by the same contractor. Rutherford also has one rig running in Nueces County for the Southland Oil Co., and one rig for the Phillips Petroleum Co. at Vanderbilt, Jackson County.

Frank Long is moving in machinery to drill a 6,500-foot test for Mills Bennett Production Co. in Calhoun County, about 6 miles from Port Lavaca. Boilers had just been unloaded on location when the hurricane of Wednesday, July 25, brought in a small tidal wave which inundated the surrounding country. Rigging up will be retarded until water has subsided. Long also has one rig running for Jack Clark in the Manvel area, and one rig running in East Texas for Albert Plummer.

Cron & Gracy are moving a rig from East Texas to drill a 6,000-foot wildcat for the Texas Co. in the northern part of Victoria County, near Fordtran. The company also has two rigs running for the Barnsdall Oil Co. and three rigs for the Shell Petroleum Corp. in the Iowa, Louisiana, Field. A seventh rig is drilling for the Texas Co. at Manvel.

BEN P. TALBOT

Ben P. Talbot, of Talbot Drilling Co., like many another Gulf Coast well man, started his oil field career in the old Spindletop Field, Jefferson County, Texas. His first job, back in 1901, was as a roughneck, but before he left the field in 1904 he had qualified as a well driller. His first job was with Guy Speed, then a drilling contractor.

In 1904 Mr. Talbot became associated with the J. M. Guffey Petroleum Co., which later became the Gulf Oil Co. For the next 18 years he served as driller, and later as drilling superintendent for his company in the major Gulf Coast fields, including Sour Lake, Barbers Hill, and Batson. One of his assignments was as drilling superintendent in charge of the company's operations at White Point, notorious for its high gas pressures, and many blowouts and craters.

In 1922 Mr. Talbot resigned to join the staff of El Aguila in Mexico, then operating on the isthmus of Tehuantapec, where he was instrumental in bringing in the first well of any consequence at Arroya Filisola, working under Red Watson, then in charge.

In 1924 Mr. Talbot returned to the United States, assembled tools of his own, and entered the contracting business. He has been drilling steadily in various proven and wildcat fields ever since, having three strings of tools drilling at this time.

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Discover New Producing Sand at Boling Dome; Geophysical Exploration in Harris County

By A. C. EASTERWOOD
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., July 30.—Of great importance during the past week was the discovery of a new producing sand on the southeast flank of the old Boling Dome in Fort Bend County. Allied Minerals, Inc.'s No. 1 J. R. Farmer in the James Scott Survey, scheduled for a Cockfield sand test, created considerable interest at the end of the week when it stopped short of the Cockfield and came in for a big producer in the Frio from 4,399-4,428 feet.

The well was brought in Saturday afternoon after drilling plugs and coring 4 feet deeper from 4,424-28 feet. It came in flowing through one-half inch choke and built up 150 pounds pressure. The choke was then reduced to three-eighths inch and the flow was estimated good for 800 bbls. daily, however, no actual gauge had been taken. The oil tested 24.8 gravity. Interest was first turned to the well last week when on a 10-minute drill stem test from 4,399-4,424 feet with three-eighths inch choke on bottom and three-quarters inch choke on top it showed 22 fourbles of oil and 4 fourbles of mud, with no water. It topped the Frio at 4,399 feet and had solid sand to 4,413 feet, sandy shale, 50 per cent of which was sand from 4,413-18 feet, and sand from 4,418-28 feet, the present total depth. It topped the Oligocene at 4,090 feet, had top of Discorbis vilardeboana at 4,150 feet and topped Frio at 4,399 feet.

Operators have a block of approximately 1,400 acres around the well. Discovery of the well is credited to R. A. Stamey, consulting geologist in Houston, who retains a quarter interest. George Whaley and R. L. Andrews secured the block for Stamey and he in turn gave Allied Minerals, Inc. three-quarters interest for the drilling of the well.

The Boling Field, discovered in December, 1925, has producing horizons from the cap just below 400 feet to the Oligocene at depths little better than 4,000 feet. July 1 the field had 69 wells producing a daily average of 329 bbls. If the well continues to hold up at its present rate of production there will in all probability be considerable drilling for the deeper producing horizons in the area.

Fort Bend County

Near Needville in Fort Bend County, Gem Oil Co.'s No. 1 Farmer in the Robert Hodges Survey, was drilling shale at 5,410 feet. In Section 39 in the northeast portion of Gem's block, Magnolia Petroleum Co. is reported to have taken the west 80 acres of the Miller tract for a reported consideration of $22.50 per acre. At Blue Ridge and in the T. Habermacher Survey, Mills Bennett's No. 1 Luschner, bottomed hole at 3,950 feet and was flowing 100 bbls. per day by heads through three-eighths inch choke, 14 per cent of which was salt water. Pressure on casing was 120 pounds. The well was formerly drilled to 4,492 feet. It topped Discorbis at 3,403 feet, had Heterostegina at 3,619 feet, topped Frio at 3,703 feet, drilled top of Vicksburg at 4,250 feet and went into Jackson at 4,469 feet.

Harris County

Just west of Houston city limits in Harris County, Loring Oil & Gas Co. has decided to deepen its No. 1 Westmoreland to the Cockfield. The well was reported abandoned as dry last week at 6,031 feet. Late in the week operators were trying to get on bottom to resume drilling. The deepening of this test will be watched with much interest. General Crude Oil Co.'s No. 1 Rorick estate, in the John C. Ogburn Survey, was drilling at 4,024 feet. It topped Discorbis at 2,950 feet, had Marine Oligocene at 2,800 feet and topped Heterostegina at 3,000 feet. Surface elevation is 147 feet. Texas-New York Development Co.'s No. 1 Ralson, about 9 miles northeast of Houston and in Lot No. 12, J. W. Moody Survey, was waiting on cement after setting surface casing with total depth of 1,538 feet. During the past two weeks the area around this test has received a nice lease play. Near the Humble Field and in the F. Bell Survey, Emerald Petroleum Co.'s No. 1 Griffith has been abandoned as dry with total depth of 4,615 feet where it tested salt water. The well topped Discorbis at 3,995-4,025 feet and had Heterostegina at 4,115-35 feet. Northwest of Seabrook and in the Ritson Morris Survey, Gulf Production Co. is reported to have recently leased 150 acres for a reported consideration of $5 per acre. The area was recently worked by seismograph reflection shooting.

Harris County continues to get its share of geophysical exploration. At present there are seven companies working geophysical crews in the county. Shell Petroleum Corp. has a reflection crew north of Baytown, Stanolind has a three-instrument torsion balance crew near Deer Creek, also a reflection crew south of Buffalo Bayou, Gulf a pendulum crew near the Lynchburg area, Texas Co. a reflection crew between Lynchburg and Crosby, Hanszen & Scranton Petty Exploration Co. south of La Port, Tide Water Oil Co. a reflection crew near the Aldine area, and Humble Oil & Refining Co. a four-instrument torsion balance crew in the Katy area.

Cleveland District

In the Cleveland area of Liberty County, Gulf Production Co.'s No. 5-C Kirby was rigging up and preparing to spud. No. 2-C, south of the discovery well, late in the week was flowing at the rate of 169 bbls. net oil daily with 30 per cent salt water through three-eighths inch choke. It was showing 400 pounds pressure on tubing and 1,200 pounds on casing. No. 4-C, recent completion which extended the field to the west, was flowing 481 bbls. net oil daily with no water through one-quarter inch choke and showing 1,550 pounds pressure on tubing and 2,600 pounds pressure on casing. Liberty-Independent Oil Co.'s No. 1 J. M. Neal, in the Samuel Strong Survey, was drilling below 2,700 feet.

In the Splendora area, Montgomery County, Humble Oil & Refining Co.'s No. 1 Anna M. Platte, east of Steen's discovery well, was drilling 5,320 feet in shale. The well topped Catahoula Frio 2,089 feet, had top of Fayette 4,690 feet and drilled top of Hockley 4,940 feet. Surface elevation is 114 feet. At last report Steen's discovery was flowing 2 bbls. of salt water daily with 11 bbls. of distillate through one-fourth-inch choke. It was showing a tubing pressure of 1,025 pounds and pressure on casing was 1,175 pounds.

West of Conroe

West of Conroe in Montgomery County, Shell Petroleum Corp.'s No. 1 Crighton, in the Mary Corner Survey, was reaming to set surface casing at 1,114 feet. This is a very important test and will be watched with much interest. North of Willis and in the J. Truitt Survey, Sayre Oil Co.'s No. 1 Delta Land Lumber Co., was drilling 1,550 feet in shale.

Sour Lake

At Sour Lake in Hardin County, Alpha Petroleum Co.'s No. 1 J. M. Weiss, in the H. Williams Survey, set screen but the well failed to flow. At last report it was rigging up to swab. Total depth is 7,012 feet. The heavy mud in the hole so long has probably helped to seal off the producing sand.

On the south flank of the Saratoga Dome in Hardin County, Sinclair Prairie Oil Co.'s No. 1 Teel estate, has been abandoned as dry with total depth of 5,627 feet in the Cook Mountain. The well is reported to have entirely missed the Cockfield, its objective. Wilcox Oil & Gas Co.'s No. 1 Sternberger, wildcat test in the C. Dorsey Survey, was shut down 5,590 feet. It topped the Oligocene 3,383 feet, had top of Discorbis 3,407 feet, topped Warreni 4,950 feet, and drilled top of Massilina Pratti 5,520 feet actual or 5,439 feet subsea. Humble Oil & Refining Co. is reported to have purchased around 120 acres out of Section 830, E. A. Girard Survey from Earl Hankamer for a reported consideration of $24,460 to be paid out of oil.

Galveston County

South of Dickinson Bayou in Galveston County, Humble Oil & Refining Co.'s No. 1 Maco Stewart, in the John Sellers Survey, was drilling below 7,050 feet. It topped the Oligocene Discorbis at 6,582 feet.

Skelly Oil Co. is moving in material for No. 2 F. G. Cobb, second well for its recently discovered Van Vleck area. The well is 1,185 feet east of the west line and 2,515 feet north of the south line of the F. G. Cobb lease in the Marie Cummings Survey. The discovery well, Skelly's No. 1 Cobb was completed the middle of March for a 120-bbl. distillate well.

Matagorda County

Continental Oil Co.'s No. 1 Robbins in the J. C. Franz Survey, at Citrus Grove in Matagorda County, was drilling 5,303 feet in shale. At Markham, Hamill & Hamill's No. 1 Hudson, on the southeast side of the dome, was abandoned in heaving shale at 3,816 feet. Between Buckeye and Sheppard's Mott, Sun Oil Co. is reported to have recently taken over 750 acres in the I&GN and L. Veeder Surveys. Mid-Kansas Oil & Gas Co. is reported to have taken approximately 1,200 acres in the northwest corner of the county and in the I&GN Survey, Block 8.

At Rattlesnake Mound in Brazoria County, Amerada Petroleum Corp.'s No. 1 Houston Farm Development Co., in the L. Bachelder Survey No. 156, was shut down and cleaning hole after the storm. Total depth is 4,415 feet.

In the northwest part of the county and north of Sandy Point, Hannon Exploration Co. is reported to have recently purchased half interest in 3,000 acres from H. C. Meyer. The area has been worked extensively with geophysical instruments.

Austin County

About 3 miles east of the New Ulm area in Austin County, I. T. I. O. and Johnson Bros.' No. 1 August Wrangler, in the Adam Kuykendall Survey, was spudding. At Raccoon Bend in Austin County, Humble Oil & Refining Co.'s No. 3 Effie Kearns, in the W. C. White Survey, was completed for 40 bbls. per day on pump, of which 15 bbls. was net oil. Total depth is 3,437 feet after plugging back from 4,750 feet after testing salt water. Humble's No. 6 Sherrod in the W. C. White Survey, was drilling 3,535 feet. Humble's No. 14 Roy Thompson was drilling 919 feet in rock. Humble's No. 7-X Gutowsky was drilling 2,632 feet in shale.

Polk County

About 3 miles north of Livingston in Polk County, Werby and others' No. 1 Dick & Failing in the A. Viesca Survey, has been completed for 67 bbls. of 44.8 gravity oil daily. It showed a pressure of 1,545 pounds on tubing and 1,675 pounds on casing. Total depth is 4,344 feet. It topped Hockley 3,476 feet and drilled top of Cockfield 4,263 feet.

Dick Schwab is reported to have recently taken about 200 acres of the Ace Oil Co.'s block in the J. F. DeRumayor Survey, south of the Livingston Field for a well to be started not later than August

GULF COAST WATER SHIPMENTS DURING JUNE, 1934

Co. and terminal—	Crude—Coastwise	Crude—Export	Refined—Coastwise	Refined—Export	Total
Altantic Pipe Line Co.:					
Atreco	1,261,673.84	383,507.26	10,009.84	.....	1,655,190.94
Texas City	153,531.81	.....	.....	.....	153,531.81
Harbor Island	326,713.02	.....	.....	.....	326,713.02
Gulf Refining Company:					
Port Arthur	407,044.14	196,121.59	1,854,836.97	18,377.24	2,476,379.94
Humble Oil and Refining Co.:					
Baytown	1,214,973.00	.....	1,452,837.05	857,946.86	3,525,756.91
Harbor Island	1,652,988.00	29,881.00	.....	.....	1,682,869.00
Ingleside	67,326.00	29,368.00	.....	.....	96,694.00
Texas City	311,480.00	.....	.....	.....	311,480.00
Magnolia Petroleum Co.:					
Beaumont	378,243.02	.....	1,537,197.42	.....	1,915,440.44
Pure Oil Co.:					
Smith Bluff	323,034.00	.....	525,205.00	.....	848,239.00
Shell Petroleum Corp.:					
Houston	254,494.43	95,060.17	765,295.86	77,528.23	1,190,378.69
Norco	.....	.....	366,944.57	.....	366,944.57
Standard Oil Co. (Louisiana):					
Baton Rouge	89,627.00	.....	751,403.00	288,184.00	1,129,214.00
Sun Pipe Line Co.:					
Sabine Pass & Sun...	1,728,356.84	.....	.....	.....	1,728,356.84
The Texas Co.:					
Port Arthur	1,067,649.00	540,561.00	1,791,637.00	537,464.00	3,937,311.00
Miscellaneous:					
Houston	1,220,461.11	345,661.44	377,580.07	517,392.48	2,946,095.44
Total June	10,457,595.21	1,623,166.46	9,930,946.72	2,296,892.81	24,308,595.20
Total May	11,536,985.79	1,714,215.94	11,358,002.32	2,592,162.61	27,200,367.66
Difference	1,078,390.58	91,056.48	1,427,055.60	295,270.80	2,891,772.46

9. West of the Livingston Pool and in the I. Parker Survey, W. E. Mannas and associates have worked up a block on which they plan a Cockfield sand test.

Chambers County

Due east of Analuac in Chambers County, Turnbull & Irwin's No. 1 Sudindorf, in the H&TC Survey Section 67, was drilling sand 4,613 feet.

Wharton County

About 3 miles east of Louise in Wharton County, Texas Gulf Production Co.'s No. 1 Kresta, in the W. B. Ivey Survey, had cemented 13⅜-inch surface casing at 1,400 feet. In the south and east part of the county, and near Magnet there has been a nice lease play in progress during the past few weeks. Shell, Magnolia, Sun and Humble have all taken leases in the area.

Jefferson County

In Jefferson County, Sun Oil Co.'s No. 1 H. Long, in the John Blair Survey, was drilling water sand 7,834 feet. Turnbull & Irwin's No. 1 Tolivar, in the S. Morris Survey, had spudded and was drilling below 400 feet in gumbo and shale. Mirimar Oil Co. is reported to have given Turnbull & Irwin 1,000 acres out of their block for the drilling of the well to a contract depth of 5,000 feet. To the east Navarro Oil Co. purchased 1,000 acres in the D. Easby Survey.

Tyler County

In Tyler County, Boone-Wallace & Lane's No. 1 Cruse, was drilling 2,515 feet. It topped the Hockley 1,222 feet, had top of Operculina 1,898 feet, and drilled top of Cockfield 1,961-65 feet. Surface elevation is 150 feet. From 1,964-74 feet it had sand and shale with a show of oil, cap from 2,231-34 feet, and sand with no show from 2,234-40 feet.

Jackson County

At Vanderbilt in Jackson County, Encio Gas Co.'s (Phillips) No. 1 Siedel & Simmons, was drilling broken shale and sand 5,650 feet. It cored 5,545-52 feet with a 1-foot recovery of sand. It cored from 5,552-59 feet with no recovery. On a drill stem test from 5,535-59 feet open 8 minutes the seat gave way and it only showed 150 feet of mud with no oil, gas, or water. A core of sand from 5,593-5,600 feet tasted salty. Same company's No. 1 J. H. Drummond, was coring 5,525 feet. Phillips Petroleum Co. was moving in derrick for No. 1 State Realty, 1,000 feet southwest and 466 feet northwest of most easterly east corner of the Vanderbilt Townsite in Block 95, R. Muskuiz Survey.

Refugio County

In the Bonnie View area of Refugio County, Heard-Holland Oil Co.'s No. 1 Peck, had set casing at 5,348 feet and it will probably be the first of the week before plugs are drilled. North of the town of Refugio, and extending across the county line Magnolia Petroleum Co. is reported taking all available acreage.

About 4 miles southeast of Refugio, Quintana Oil Co.'s No. 1-B O'Connor, in the BBB&C Survey, Abtract 96, was drilling 2,200 feet. The discovery well, Quintana's No. 1 O'Connor, is reported making about 9 per cent salt water with 150 bbls. of fluid daily, which is its present allowable. The well came in for 780 bbls. daily.

Calhoun County

In Calhoun County, Continental Oil Co.'s No. 1 Moody, between Seadrift and O'Connor, was drilling 5,760 feet. J. H. Meek and others' No. 1 R. Adams, about 2½ miles northeast of McCamey and in Section 45, was rigging up.

SOUTH LOUISIANA

Along the Conroe trend in Beauregard Parish, Federal Petroleum Co.'s No. 1 Lutcher-Moore, was drilling 8,560 feet. About 6 miles to the northwest same operators No. 1-B Lutcher-Moore was drilling 3,515 feet.

Superior Oil Co. has started work on 10 of its new locations at Bosco and will probably be little more than a week before most of them are spudded in. Superior's No. 1 Arceneaux and others was drilling sand 8,461 feet. No. 1 Marcellus Savoie was drilling shale at 8,078 feet. No. 1 Looansite Richard was going ahead below 8,070 feet, and No. 1 Leo E. Kahn and others was drilling hard sand 7,202 feet.

(Continued on Page 69)

Wildcat Operations on Gulf Coast

Week Ending July 28

RACCOON BEND—AUSTIN COUNTY

Humble O. & R. Co.'s No. 7-X Gutowsky, 466 ft. N and E lines of 150-ac. tract in W. C. Whi.e Sur.
Drlg. shale 2,632 ft.

Humble O. & R. Co.'s No. 3 Effie Kearns, 270 ft. W of E line, 825 ft. N of S line of 175-ac. lease in W. C. White Sur.
Old T.D. 4,750 ft.; P.B. to 3,432 ft.; cmt. 7-in. csg.; T.D. 3,437 ft.; comp. 40 bbls. fluid day on pump, net 15 bbls. oil.

Humble O. & R. Co.'s No. 3 McCasland.
T.D. 4,181 ft.; W.O.C.

Humble O. & R. Co.'s No. 6 M. R. Sherrod, 933 ft. E of W line, 466 ft. N of S line of W. C. White Sur.
Drlg. 3,535 ft., shale.

Humble O. & R. Co.'s No. 14 Roy Thompson, 466 ft. S of N line, 933 ft. E of W line of 353-ac. tract in W. C. White Sur.
Drlg. 919 ft., rock.

DANBURY—BRAZORIA COUNTY

Shell Pet. Corp.'s No. 6 Blakely & Winston.
Drlg. shale 2,188 ft.

Shell Pet. Corp.'s No. 3 Haury, 800 ft. SE of No. 2 in line with No. 2 and No. 1 Blakely-Winston, H.&T.B. Sur. No. 13.
Drlg. shale and lime 4,481 ft.

Shell Pet. Corp.'s No. 1 Schmitt, 318 ft. E, 107 ft. S of NW cor. of 149.7-ac. tract in J. H. Bruner Sur.
Abandoned 2,010 ft.

Shell Pet. Corp.'s No. 1-A Schmitt, 357 ft. E and 107 ft. from NW cor. of 146-ac. tract in J. H. Bruner Sur.
Spud.

DAMON MOUND—BRAZORIA COUNTY

Esco's No. 1-D Wisdom, 25 ft. from S and W lines of Blk. D, Lot 5. A. Darst Sur.
lime and shale 1,165 ft.; S.D.

H. Wisdom's No. 2 fee, A. Darst Sur., 50 ft. E W line and 200 ft. N of No. 1.
Shale 1,120 ft.; S.D.

H. Wisdom's No. 3 fee, A. Darst Sur.
Shale 130 ft.; no report.

H. Wisdom's No. 1 Proctor, 40 ft. out of SW cor., Blk. 1, A. Darst Sur.
Drlg. gum'o and lime 1,289 ft.

MANVEL—BRAZORIA COUNTY

Max O. Miner's No. 1 H. F. Stipp, 220 ft. W of E line and 195 ft. N of S line of Lot 28, H.&T.B. No. 23 Sur.
Location.

Texas Co.'s No. 11-B Belcher, 660 ft. S, 48 deg. 9 ft. E of B-10 and 330 ft. N, 41 deg. 51 ft. E of SW line of lease, H. N. Little Sur.
Coring sand 5,073 ft.

Texas Co.'s No. 12-B Belcher, 194 ft. and 42 degrees 330 ft. N 48 degrees W from NE cor. of Helen J. Way lease in H. N. Little Sur.
Location.

Texas Co.'s No. 2 Boft, 200 ft. N and 24 ft. W of S line and 330 ft. S 41 deg. 51 ft. E from NE line of Lot No. 7 in Charles O'Donnell Sur.
Coring oil sand 5,168 ft.

Texas Co.'s No. 3 Ellis, 330 ft. S, 32 deg. 45 ft. W from E line, 330 ft. N 48 deg. 20 ft. W of SE line of lease in H. N. Little Sur.
Drlg. shale and lime 5,099 ft.

Texas Co.'s No. 2 Houston Oil Field Association, 247 ft. from N line and 247 ft. from S line and 441 ft. from W line of Lot 43, A.C.H.&B. Sur., Sec. 91.
T.D. 4,218 ft.; temp abnd.

Texas Oil Co.'s No. 1 Houston Oil Field Association, 330 ft. from W line and 265 ft. from S line of Lot 6, A.C.H.&B. Sur., Sec. 91.
T.D. 4,244 ft.; sidetracked to 3,976 ft.; temp. abnd.

Texas Co.'s No. 3 Houston Oil Field Assn., 247.5 ft. S, no deg. 28 ft. W and 419.4 ft. N 89 deg. 32 ft. W from NE cor. of Lot No. 16, A.C.H.&B. Sur. No. 91.
Drlg. sticky shale 1,114 ft.

Texas Co.'s No. 2 Lieder, 646 ft. N, 330 ft. W of SE cor. of Lot No. 3, A.C.H.&B. Sur. No. 91.
Derrick.

Texas Co.'s No. 1-A Massey, 330 ft. out of NW cor. of 33-ac. tract in H. Stevens Sur.
Derrick.

Windsor Oil Co.'s No. 1 Colby, 325 ft. from NW line and 330 ft. from NE line of 50-ac. lease in T. Sproggins Sur.
T.D. 5,120 ft.; D.S. test 5,077-5,120 ft., open 10 min., 1,400 ft. oil; prep. to run 7-in. csg.

(Continued on Page 80)

Even a heavy rainstorm wouldn't bother these G-E CONTROLLERS

They're Weatherproof!

FOR your well-pumping rigs driven by squirrel-cage motors, use one of these G-E controllers. You can install them outdoors. You don't even have to build a protective shed over them—they're *weatherproof.*

Important, too, is the fact that you can buy from General Electric the *right* control for every type of motor installation. For example, look into the control described and illustrated below.

No. 1 is a combination magnetic switch—a motor-starting switch and a disconnect switch, housed in a single, weatherproof, cast-iron cabinet. Just one unit to install, instead of two. Consider the saving! Saves space, too. Weatherproof, corrosion-resisting, oil-immersed combination switches are also available.

No. 2 is the well-known CR7006 magnetic motor-starting switch, housed in a strong, weatherproof, cast iron case. Particularly recommended for single-rated motors up to 50 hp. Also available in oil-immersed types for outdoor service.

No. 3 is a special control for double- or triple-rated motors. This unit and a G-E Y-delta motor are well suited for both present and future pumping needs—the low ratings for present allowables and the high rating for the future.

No. 1. Combination magnetic switch

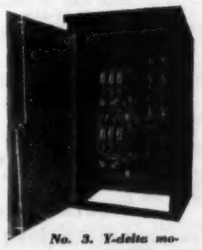
No. 2. CR7006 motor-starting switch

No. 4 is an ingenious motor starter with time-switch control, for intermittent operation of wells to meet the requirements of proration.

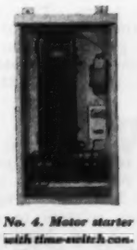
•

For complete information on these and many other G-E controllers for oil-field service, see a G-E oil-field specialist near you. Remember, General Electric also makes a complete line of motors for every pumping and drilling requirement. General Electric, Schenectady, New York.

Specify G-E insulated cable, which is available in every type, size, and voltage, for dependability in bringing power to your job.



No. 3. Y-delta motor control



No. 4. Motor starter with time-switch control (cover removed)

080-17

GENERAL ELECTRIC

Rush County the Most Interesting District in the Kansas Fields; May Develop New Pool

By JAMES McINTYRE

The Otis gas field in eastern Rush County, Kansas, is the most interesting spot in Kansas at this time because of the showing in the Mid-Kansas Oil & Gas Co.'s test, in Section 10-18-16w. The greater portion of Township 17-16w is held under a drilling block by J. H. Schlegel, Jr., of Otis. It is known as the old Central Commercial block. On it was drilled a small well in the C NW of Section 24-17-16w, the oil coming from the same formation as that producing in the Mid-Kansas Oil & Gas Co.'s test above referred to. This has led to the belief that in the two townships lies an oil pool that may develop into major proportions.

Estimated Production

Estimated daily average production of Kansas in the week ending July 28 and in the preceding week follows:

	Barrels	
	July 28	July 21
Hollow	9,800	10,505
Ritz-Canton	14,805	14,925
Voshell	6,965	6,760
Johnson	1,885	1,911
Sedgwick County	7,150	7,065
Nikkell	7,335	7,155
Ellsworth County	3,750	3,215
Barton County	1,335	1,505
Rice County	15,173	15,024
Reno County	6,450	5,180
Ellis County	560	730
Kingman County	1,625	1,445
Stafford County	1,810	1,765
Russell County	8,095	7,705
Greenwood County	12,700	12,700
Butler County	19,900	19,700
Other pools	17,517	18,245
Total	136,755	135,535

Rush County

Various estimates have been conjectured upon the Mid-Kansas Oil & Gas Co.'s No. 1 Mohr, C NW Section 10-18-16w, Rush County, which last week made its debut as the first oil well in this old gas area. Estimates ranging from 100 bbls. to 500 bbls. of oil with lots of gas have been made but as no test of production has been made as yet a conservative estimate might be 8,000,000 feet of gas and spray of oil from Siliceous lime 3,527-36 feet, total depth. Flow tanks are under construction and a gauge on production should be availalbe for next week's report.

Central States Light & Power Co. has abandoned its location for No. 1 Basgall, SE cor. Section 10-17-16w.

Far western Kansas is scheduled for a test for production in the staking of a location in Scott County by Atlantic Oil Producing Co. in its No. 1 Vaniman C SE NE Section 15-20-33w.

Phillips Petroleum Co.'s No. 1 Dopita, CSW SW Section 31-8-17w, Rooks County, has been completed, the potential gauge being 44 bbls. of oil and 39 bbls. of water in 24 hours. This well had several oil showings from 3,059 feet on down. The best gauge of production was before acid treatment, 112 bbls. in 7 hours on swab from the 3,312-16-foot horizon.

Trego County

Late reports on the wildcat test of Watchorn Oil & Gas Co., Continental Oil Co. and others' No. 1 Rhodes estate, C SW SW Section 14-11-23w, Trego County, and sometimes referred to as Alma Petroleum Co.'s No. 1 Rhodes estate, have the well shut down 32 feet in Siliceous lime at 4,222 feet, total depth, with a hole full of water. Water was first encountered at 4,070 feet.

Ellis County

Stanolind Oil & Gas Co.'s No. 36, L. L. Austin, SE NE Section 36-12-16w, Ellis County, pumped 141 bbls. after Oswald lime from 3,005-80 feet, total depth had been treated with 1,000 gallons of acid. The well, however, had not been completed. The Dodge lime from 2,930-35 feet carried a nice volume of gas which was estimated at 25,000,000 feet.

Ellsworth County

Derby Oil Co.'s No. 3 Stoltenberg "A," SW NW Section 22-16-10w, Stoltenberg Pool of Ellsworth County, was swabbing 22½ bbls. of oil an hour from Siliceous lime 3,352-57 feet. It will probably be deepened.

Stanolind Oil & Gas Co. and Gypsy Oil Co.'s No. 5 Stoltenberg, NW SW Section 22-16-10w, have 5-inch casing set on top of Siliceous lime 3,335-41 feet, and are waiting on cement to set.

There was one new location for Ellsworth County during the past week it being Stanolind Oil & Gas Co. and Gypsy Oil Co.'s No. 2 Frevert, SE NE Section 21-16-10w.

Stafford County

In Stafford County a new location was staked in the Gates Pool, Atlantic Oil Producing Co.'s No. 2 Gates "A," C NE SE Section 27-21-13w.

Barton County

In the Ellenwood Pool, Barton County, rig is up for Stanolind Oil & Gas Co.'s No. 1 Jutling, C SE NE Section 16-20-11w.

Atlantic Oil Producing Co.'s No. 1 Straub, C SE NW Section 36-18-11w, which earlier in the week had Siliceous lime at 3,286 feet, drilled to 3,298 feet and picked up good pay at 3,294-96 feet, making 3½ bailers of oil an hour through mud and cavings. Pipe has been set and it will be given a test.

Rice County

In the Chase Townsite Pool of Rice County, Empire Oil & Refining Co.'s No. 1 Proffitt, NW SE SE Section 6-20-9w, was completed for 869 bbls. on pump from Siliceous lime 3,265-68 feet, total depth.

Sinclair Prairie Oil & Gas Co.'s No. 1 Sharpe, SE NW NE Section 7-20-9w, Sharpe Pool, was shut down waiting for 8-inch casing to set at 3,261 feet. Total depth was 17 feet in Siliceous lime at 3,272 feet, with nothing reported showing.

Empire Oil & Refining Co. was underreaming 6-inch casing in its No. 7 Heckel, NE SW SW Section 18-20-9w. Siliceous lime was topped at 3,347 feet.

About 1½ miles southeast of the Brandenstein Pool, James Davis' No. 1 Katterjohn, SW cor. Section 13-19-10w, had filled up 1,000 feet with oil which was coming from Siliceous lime from 3,291-3,314 feet. A swabbing test revealed a little water, along with the oil.

In the Chase Townsite Pool, Ramsey and others' No. 3 Ira, C S half NE NW Section 32-19-9w, was swabbing 7½ bbls. oil per hour from Siliceous lime 3,300-04 feet, total depth. Six-inch casing had been set at 3,187 feet.

Rice County had four first reports over the week two of which were wildcat locations: Gypsy Oil Co.'s No. 1 Gibson, SW NE NE Section 4-21-10w, wildcat test, building rig; same company's No. 6 Christopher, C NE Section 6-20-9w, building rig; Darby Petroleum Co. and others' No. 1 Taylor, NW SE SW Section 25-19-8w, wildcat test, rig; Continental Oil Co. and others' No. 1 Ainsworth, SW NE Section 25-18-8w, location.

Russell County

Empire Oil & Refining Co.'s No. 2 Krug, SW NW Section 24-15-14w, Russell County, had 2,900 feet of oil in the hole from Siliceous lime encountered from 3,351-56 feet, total depth. It was shut down waiting for 6-inch casing to set at 3,352 feet.

Blair, Hartman and others' No. 1 Hill, SW NE Section 14-13-14w, got a hole full of water from Siliceous lime 3,314-38 feet, total depth. However, it had not been abandoned.

Tom Palmer has acid treated his No. 2 Borrell, SE NE Section 21-13-14w, and operations were suspended waiting results of the treatment. Siliceous lime from 3,290-98 feet, total depth, had put 700 feet of oil in the hole in 7 hours before acid was applied.

Sinclair Prairie Oil Co.'s No. 2 Brungart, SW NW Section 31-12-15w, swabbed 2 bbls. per hour nautral from Oswald lime 3,023-98 feet, total depth. The well was shut down waiting effects of acid treatment.

New work in Russell County includes the following: Indian Territory Illuminating Oil Co.'s No. 1 Driscoll, NE SW Section 21-13-14w, location; E. K. Carey and others' No. 1 Schaffer, NW SW Section 27-13-14w, rig on the ground; E. Ligget's No. 1 Coles, SE NE Section 17-11-15w, location.

Sedgwick County

Aylward & Corn's No. 1 Peck, NW SW Section 2-27-1w, Sedgwick County, set 6-inch casing at 3,334, topped Viola 3,519, Wilcox at 3,527 and was shut down, 15 feet in Siliceous lime at 6,620 feet with nothing showing.

Harvey County

The Nikkel Pool of Harvey County had one more producer added to its list in the Derby Oil Co. and others' No. 1 Hiebert, NE SW SE Section 5-22-3w, Hunton lime from 3,508-62 feet, total depth, was acidized with 1,000 gallons to yield 366 bbls. oil and 13 bbls. water on the pump. It was a completion.

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. have recompleted two wells in the Hollow Pool. No. 1 Froese, SW NW Section 20-22-2w, was deepened from 3,496 to 3,516 feet, total depth, to be completed for 552 bbls. on the pump. No. 2 Froese, NW SW NW of same section, was deepened from 3,494 to 3,515 feet, total depth, to produce 504 bbls. on the pump.

Shell Petroleum Corp. made a location for its No. 5 Voth, C N half N half NW Section 4-22-3w, Nikkel Pool, rigging up rotary.

Reno County

Sinclair Prairie Oil & Gas Co.'s wildcat test, No. 1 Shepherd, SE NW Section 22-26-9w, Reno County, was drilling at 4,350 feet with 2,500 feet of water in hole coming from Siliceous lime 4,333-43 feet.

Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Holtje "C," NE SW Section 16-26-4w, swabbed 224 bbls. oil in 5½ hours from Viola lime from 4,056-59 feet, total depth. It had not been completed.

In the Haury Pool, Empire and others' No. 1 Haury "B," SW cor. Section 1-23-4w, found Hunton lime from 3,618-31 feet, total depth, plugged back 4 feet to 3,627 to shut off water, and pumped 136 bbls. of oil and 2 bbls. of water. It was completed.

Study-Frost and others' No. 1 Berger, C E half NE NE Section 2-23-4w, was dry and abandoned at 3,662 feet, total depth, with a show of oil and a hole full of water in bottom of hole. Hunton lime was topped at 3,645 feet, and one-half million feet of gas was had from 3,300-05 feet.

Wildcat Operations in Kansas

Week Ending July 28

(Descriptions are East unless marked otherwise)

BARBER COUNTY

Indian Territory Illuminating Oil Co.'s No. 1 George, C SE SW Sec. 13-33-10w.
Drlg. 2,080 ft.

Lario O. & G. Co.'s No. 1 Whelan, C NW Sec. 32-31-11w.
500,000 ft. gas 4,358 ft.; drlg. 4,395 ft.

BARTON COUNTY

Atlantic O. P. Co.'s No. 1 Straub, C SE NW Sec. 36-18-11w.
5-in. csg. top Siliceous 3,286-98 ft., T.D.; 3½ bailers oil per hour through mud and cavings.

Gypsy Oil Co. and Atlantic Prod. Co. and Shell Pet. Corp.'s No. 1 Batchman, C SW NE Section 18-20-12w.
Rig up.

Harris & Haun and J. Brook's No. 1 Dietz, NE SW Sec. 21-16-16w.
Set 12-in. csg. 1,057 ft.; C.O.

Murphin and Downing's No. 1 Lanterman, NW SE Sec. 15-19-11w.
Rig timbers.

National Ref. Co.'s No. 1 Ingersoll, C NW NE Sec. 3-19-13w.
T.D. 1,842 ft.; S.D.

Walter Shearen et al's No. 1 Kempler, SE NE NE Sec. 31-18-11w.
S.D. 360 ft.

CLAY COUNTY

Seidel Bros.' No. 1 Youkers, C S½ SE NW Sec. 21-9-4.
S.D. 920 ft.

COWLEY COUNTY

National Refining Co.'s No. 1 Robinson, NE SE NE Section 11-34-4.
Drlg. 1,690 ft.

Roth & Farout's No. 1 Fox, SE SW Sec. 35-30-7.
S.D. 1,150 ft.

DICKINSON COUNTY

Dutch Oil Co.'s No. 1 Phillips, C NE NW Sec. 15-15-1e.
Set 10-in. csg. 1,650 ft.; drlg. 2,025 ft.

ELLIS COUNTY

Ashby et al's No. 1 Mermis, NW cor. NP Sec. 34-13-16w.
Rig.

ELLSWORTH COUNTY

Elwell et al's No. 1 Campbell, SW cor. Sec. 20-17-7w.
Rig.

GREENWOOD COUNTY

Greeley et al's No. 1 Satler, SW SE SW Sec. 28-25-12.
T.D. 38 ft.; set 10-in. and S.D.

Ward McGinnis' No. 1 Sample, NE SE Sec. 16-25-10e.
Lime 2,095-2,125 ft., T.D.; dry and abnd.

HARPER COUNTY

R. G. Berry's No. 1 Anthony, C SW SW Sec. 17-31-8w.
T.D. 4,233 ft.; C.O.

HARVEY COUNTY

Hollow et al's No. 1 Swafford, NW NE NW Sec. 3-22-1w.
Drlg. 1,755 ft.

Wensel et al's No. 1 Schrag, NW SE Sec. 24-22-3w.
Rig.

KINGMAN COUNTY

W. C. McBride, Inc.'s No. 1 Wolbridge, NW SE Sec. 16-27-7w.
T.D. 1,800 ft.; U.R. 12-in. csg.

McPHERSON COUNTY

Marileen Oil and Goering Bros.' No. 1 Decker, NW cor. SE Sec. 20-18-1w.
T.D. 1,995 ft.; fishing.

Tom Palmer and Phillips Pet. Co.'s No. 1 Moddelmog, NE NE NW Sec. 8-21-1w.
Rig up.

OSAGE COUNTY

Jim Edwards' No. 1 Detrich, C NW SE Sec. 21-14-15.
Machine.

OSBORNE COUNTY

Carmen & Hershey's No. 1 Fritz, C NE NE Sec. 9-10-14w.
S.D. 700 ft.

RENO COUNTY

Foraker et al's No. 1 Hiett, SE SW NE Sec. 24-24-4w.
Ponds and cellar.

L. H. Wents' No. 1 Metcalf, SE NE SW Sec. 3-24-7w.
Set 8-in. csg. 3,335 ft.; drlg. 3,370 ft.

(Continued on Next Page)

Barnsdall Oil Co.'s No. 2 Sabin, SW NE Section 11-23-4w, had Hunton lime from 3,553-77 feet, total depth, and was completed for 1,148 bbls. of oil and no water.

Deal Oil & Gas Co. and others' No. 1 McElwain, C SE SE Section 34-23-4w, Burrton Pool, topped Chat at 3,253 feet, and at 3,306 feet was making 30 million feet of gas.

National Union Oil Co.'s No. 1 Ackley, C SE SE Section 11-23-4w, found chat at 3,262 feet, 7,000,000 feet of gas at 3,320 feet and was drilling ahead at 3,325 feet.

The Gypsy Oil Co.'s No. 4 (Twin) Krehbiel, SE NW NW NE Section 35-23-4w, produced 1,355 bbls. from Hunton lime from 3,578-98 feet, total depth, and was completed.

The Texas Co.'s No. 2 Stucky, C NE NW Section 36-23-4w, topped chat at 3,266 feet, encountered pay from 3,360-70 feet, total depth, and was completed for 87 bbls. oil and 30 bbls. water on the pump.

There were three new operations to start up in Reno County the past week: Barnsdall Oil Co.'s No. Sabin "A," SE NW Section 11-23-4w, location; Barnsdall Oil Co.'s No. 1 Sabin "C," NW SE Section 11-23-4w, cellar, and Skelly Oil Co.'s No. 1 Sabin, NE SW Section 11-23-4w, cellar.

McPherson County

McPherson County operations resulted in the completion of five wells and three new locations and operations. The list follows:

Gypsy Oil Co. completed No. 4 Stucky, NE NW SE Section 33-20-3w, north end of the Voshell Pool, for an estimated 80 bbls. of oil and 10 bbls. of water, production coming from acidized Siliceous lime from 3,472-99 feet, total depth.

Regina Oil & Gas Co. was drilling at 3,411 feet in its No. 1 Young, C SW SW Section 9-20-1w, with a show of oil from Viola lime topped at 3,404 feet.

Roth & Farout completed No. 3 Swanson, SE SW NE Section 13-19,3w, Johnson Pool, for 520 bbls. oil and 88 bbls. water, production coming from pay in chat from 3,007-12 feet, total depth. Top of chat was 2,948 feet.

Vernon Oil & Gas Co.'s No. 1 Bengston, SE NW NE Section 13-19-3w, was good for 135 bbls. of oil and 50 bbls. of water and 8,000,000 feet of gas from chat 2,945-3,013 feet, total depth. Twenty-two million feet found at 2,980 feet was cased off with 6-inch at 2,985 feet, oil production coming from below that depth.

Olsen Drilling Co. and Shell Petroleum Corp.'s No. 1 Russell, C SE SE Section 3-19-2w, Ritz-Canton Pool, had 350 feet of oil in hole from Viola lime 3,409-10 feet. It was to be drilled deeper.

Helmerich & Payne completed No. 6 Russell "B," SW NE NE Section 23-19-2w for 85 bbls. of oil and 50 bbls. of water after acidizing Viola lime from 3,380-85 feet, total depth.

The same operator's No. 5 Russell "C," SW NE Section 23-19-2w, had chat from 2,895-2,951 feet, swabbing 225 bbls. in 24 hours. It had not been completed.

In the McPherson Pool, Youker and others' No. 1-A Rolander, SE SW SW Section 30-18-2w, was plugged back from old total depth of 3,310 feet to 2,415-20 foot horizon to be completed for 12 bbls. oil and 100 bbls. water on the pump after a 2,000 gallon shot of acid.

First reports for McPherson County are as follows: Continental Oil Co.'s No. 1 Goering, SE SW Section 29-21-1w, cellar; Roth & Farout's No. 1 Swanson, NE SW NE Section 13-19-3w, old total depth 2,961 feet, rigging up to deepen; Breslin Oil Co.'s No. 2 Flook, SE NE NW Section 35-19-2w, old total depth 2,947 feet, drilling deeper at 3,100 feet.

Chase County

Slick, Pryor and Lockhart at No. 1 Leedy, SW NE Section 25-22-9e, extended the Browning Pool of southern Chase County 1 mile to the north when the well flowed 160 bbls. in less than 12 hours from the Bartlesville sand at 2,427-86 feet. Field men estimate it good for 500 bbls. and it is perhaps the biggest new producer for eastern Kansas in several years. It had not been completed.

Paulhamus and others are drilling at 500 feet in their No. 1-A Leedy, SE SW NW Section 25-22-9e, a new operation for the week.

Chautauqua County

Griffin & Bell's No. 2 Julian, C S half NE NW Section 12-32-10e, Chautauqua County, found Oswego lime from 1,599-1,076 feet, total depth and was com-

(Continued on Page 69)

Kansas Wildcats

(Continued from Preceding Page)

Sinclair Prairie Oil Co.'s No. 1 Shepard, SE cor. NW Sec. 32-26-9w.
Siliceous lime 4,333-43 ft.; 2,500 ft. W.I.H.; drlg. 4,350 ft.

RICE COUNTY

Darby Pet. Co. et al's No. 1 Taylor, NW SE SW Sec. 25-19-8w.
Rig.

Deitrick et al's No. 1 Fitzpatrick, C NE NE Sec. 30-21-8w.
U.R. 8-in. csg. 2,620 ft.; T.D.

Gypsy Oil Co.'s No. 1 Gibson, SW NW NE Sec. 4-21-10w.
Bldg. rig.

Elwell et al's No. 1 Porter, NE NW Sec. 5-18-7w.
S.D. 240 ft. for water.

Langston et al's No. 1 Markle, NE SW Sec. 1-20-9w.
H.D. 2,425 ft.; fsg.

Reserve Dev. Co.'s No. 1 Heinz, NE SW SE Sec. 8-18-10w.
Siliceous lime 3,256-69 ft.; T.D.; acidized; pump 20 bbls. daily; S.D.

Robertson et al's No. 1 Johnson, NW cor. SW Sec. 22-19-8w.
Drlg. 2,380 ft.

ROOKS COUNTY

Ashby et al's No. 1 Doughty, C SW SW Sec. 15-8-19w.
Drlg. 2,710 ft.

Phillips Pet. Co.'s No. 1 Dopita, C SW SW Sec. 31-8-17w.
Acidized 3,312-17 ft.; pumped 103 bbls. oil, 11 bbls. wtr. in 14 hrs.; reireatg. with acid; 40 bbls. oil, 60 bbls. water; comp.

RUSH COUNTY

Central States L. & P. Co.'s No. 1 Basgall, SE cor. Sec. 10-17-16w.
Location abnd.

RUSSELL COUNTY

Blair et al's No. 1 Funk, SW NW SE Sec. 16-14-14w.
Location.

Blair et al's No. 1 Hill, SW NE Sec. 14-13-14w.
6-in. csg. 3,100 ft.; Siliceous (cor.) 3,314-38 ft., T.D.; H.F.W.

Lario et al's No. 1 Nudenthal, NE NE Sec. 23-14-15w.
Drlg. 845 ft.

SCOTT COUNTY

Atlantic Oil Prod. Co.'s No. 1 Vaniman, C SE NE Sec. 15-20-33w.
Location.

SEDGWICK COUNTY

Bar Key Pet. Co.'s No. 1 Swenson, C NE Sec. 6-26-2.
Chat 2,976-82 ft., T.D.; 2,700 ft. oil in hole; no test of production.

Corn & Aylward's No. 1 Heck, NW SW Sec. 2-27-1w.
6-in. 3,334 ft.; Wilcox 3,527 ft.; Siliceous 3,605-20 ft.; S.D.

Cromwell & Lewis' No. 1 Hammond, SW NW Sec. 23-27-2w (O.W.D.D.).
Rigging up.

Jones, Kirk et al's No. 1 McQuillan, NE NW NE Section 21-29-2w.
Rig up.

Shawver et al's No. 1 Schulte, NE NE Sec. 13-28-2w.
6-in. 3,295 ft.; drlg. 3,325 ft.

Sovereign Oil Co.'s No. 1 Nichols, C NW SE Sec. 20-26-1w.
Set 5-in. csg. 2,695 ft.; drlg. 2,700 ft.

Trees Oil, Derby Oil et al's No. 1 McMinn, NW SW NE Sec. 36-26-1e.
S.D. 2,219 ft.

SUMNER COUNTY

Morgan & Flynn's No. 1 Mercer, NW NE NW Sec. 36-32-1w.
Chat 3,697 ft.; T.D. 3,706 ft.; S.O.; S.D.

Wentz and Continental's No. 1 Small, NW SW Sec. 5-32-4w.
Drlg. 1,365 ft.

TREGO COUNTY

Alma Pet. Co. et al's No. 1 Rhodes estate, SW SW Sec. 14-11-23w.
Siliceous lime 3,978 ft.; T.D. 4,222 ft.; H.F.W.; S.D.

Mid-Kansas O. & G. Co.'s No. 1 Kline, SW SE Sec. 19-14-24w.
Drlg. 1,025 ft.

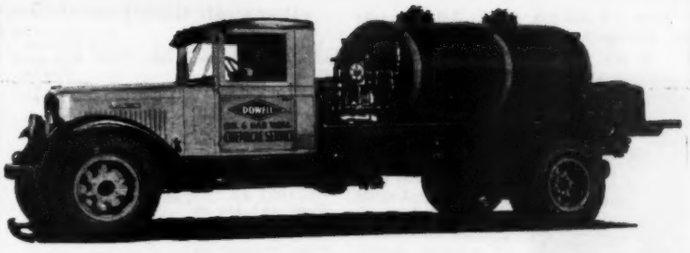
WASHINGTON COUNTY

Rose Oil Co. et al's No. 1 Penwell, NE NW SE NE Sec. 16-3-3 (O.W.D.D).
Old T.D. 1,720 ft.; R.U. and S.D

WOODSON COUNTY

Schwartz et al's No. 1 Collins, SW NW NE Sec. 30-23-14.
S.D. 300 ft.

STEP UP
OIL PRODUCTION



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California Wildcat Exploration and Development to Show Further Improvement in Few Months

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., July 30.—As an aftermath of the strike and a consumption somewhat lower than anticipated, the Petroleum administrator has reduced California's allowable crude oil production 19,200 bbls. per day for August and reduced the allowable production of gasoline during the same period from 5,535,000 bbls. which prevailed in July to 4,954,000 bbls. It is quite likely that operations of the Pacific Coast Petroleum Agency are also reflected in the revised allowables for August as successful operation of the Agency depends to some extent on the maintenance of an equilibrium between supply and demand in order that no imposition will be placed on any group. During the strike period some marketers were holding the sack due to the inability to sell their normal quota and consequently were forced to build up stocks of gasoline. The relatively small reduction in allowable production of crude oil is not expected to cause any difficulty although it is quite probable that the Central Committee of California Oil Producers may be obliged to revise the quotas of fields producing light refining crude in order not to disturb the production of fields yielding the heavier grades of crude.

With the first half of 1934 a matter of history and the third quarter of the year already well under way California operators are a little more optimistic as gasoline prices have been stabilized and for the remainder of the year there is a good possibility that marketers may be able to dispense with red ink. Wildcat exploration and development work in proven fields is holding up in good shape and indications point to a further improvement during the course of the next several months. Drilling operations have shown a consistent increase since the turn of the year and if the production situation can be held in check we may anticipate the starting of additional work. Exploration work is becoming more conspicuous as most of the larger companies are desirous of making new discoveries in order to maintain normal reserves. New wells completed during the past week were slightly larger than the average and a check of drilling operations under way indicates the probability that completions during the next several months will be somewhat in excess of the number finished during the first six months of the year.

Mountain View

The Standard Oil Co. has finally finished its No. 1 Nichols in the Mountain View Field of Kern County but the initial daily production, 125 bbls. of relatively clean 28.1 gravity oil, did not come up to expectations. This well, which was the first project started by Standard in this field, was the second to be finished due to mechanical trouble augmented by the fact that the oil zone at this point was not any too good. No. 1 Nichols was bottomed at 5,843 feet, plugged to 5,387 feet and then redrilled to 5,630 feet, before being officially finished. This well seems to have been rather well jimmied up during the course of work. The Union Oil Co. is putting the finishing touches on No. 1 Wible and this potential producer is expected to be completed within the next 48 hours. This well blew out oil, mud and gas for an hour or more during the water shut-off test last week and seems to have plenty of kick to justify the expectation of resulting in commercial production at 5,580 feet. No. 1 Wible is east of No. 1 Kernco which the Union completed on the Kern County Land Co. property about 60 days ago. The easterly or westerly location of wells in this field do not mean so much, however, as this field is due to an accumulation of oil and gas along a north fault and consequently the highest production is secured in close proximity to the fault. It was thought that Mountain View was a normal anticline for several months but subsequent drilling disproved this theory. Due to cross faulting, there is still some doubt as to the relationship of this field to Edison where production of several gravities of oil has been developed up to the present time. The Edison area is located east of the southern end of Mountain View and there are several factors that are not quite clear to geologists due to proximity, range in gravity of oil produced and the completion depth. Lack of uniformity in subsurface conditions is a characteristic of accumulations of oil and gas along a major fault in contrast with conditions existing in a normal anticlinal structure and consequently engineers are unable to definitely outline the probable productive limits until a sufficient amount of drilling is undertaken to show the trend or afford some data that might justify normal conclusions.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	July 15		July 8			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Fuel oil	220,324	31,546	165,240	23,606	8,388,186	805,561
Diesel and gas oil	.....	.....	.....	.....	1,000,056	1,025,064
Gasoline	76,084	10,869	117,606	16,801	3,753,454	5,067,640
Kerosene	.....	.....	.....	.....	579,421	502,970
Asphalt	.....	.....	.....	.....	70,019	12,179
Other finished oil	.....	.....	.....	.....	25,769	42,814
Other unfinished oil	.....	.....	.....	.....	.....	72,584
Foreign exports—						
Crude oil	72,630	10,376	.....	.....	3,864,681	3,983,428
Fuel oil	256,332	36,690	237,693	33,956	6,841,525	4,188,235
Diesel and gas oil	29,682	4,240	59,554	8,522	2,225,197	1,957,944
Gasoline	.....	.....	64,166	9,167	2,151,517	3,443,474
Kerosene	.....	.....	30,125	4,303	1,061,392	1,020,864
Other finished oil	.....	.....	.....	.....	3,529	12,086
Other unfinished oil	.....	.....	.....	.....	186,069	24,547
Coastwise-domestic—						
Crude oil	35,057	5,008	.....	.....	4,774,713	4,535,745
Fuel oil	99,434	14,205	214,975	30,711	4,864,972	5,516,882
Diesel and gas oil	2,130	304	1,452	208	389,351	762,014
Gasoline	414,165	59,166	367,526	52,504	6,065,884	6,750,920
Kerosene	5,761	823	.....	.....	87,233	115,248
Naphtha distillates	.....	.....	.....	.....	.....	27,651

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Fuel oil	.....	.....	.....	.....	110,650	.....
Diesel and gas oil	.....	.....	.....	.....	443,113	250,531
Gasoline	.....	.....	.....	.....	145,806	571,072
Kerosene	.....	.....	.....	.....	276,412	482,430
Lubricants	.....	.....	.....	.....	26,500	24,366
Foreign exports—						
Crude oil	.....	.....	.....	.....	1,005,072	1,077,093
Fuel oil	20,374	2,911	21,743	3,106	994,621	361,366
Diesel and gas oil	.....	.....	.....	.....	818,270	626,662
Gasoline	14,330	2,119	76,101	10,872	1,879,043	2,477,387
Kerosene	.....	.....	10,894	1,556	510,089	561,729
Lubricants	.....	.....	.....	.....	89,744	76,905
Other finished oil	.....	.....	.....	.....	2,760	3,745
Other unfinished oil	.....	.....	.....	.....	5,750	19,166
Coastwise-domestic—						
Fuel oil	449,827	64,261	219,408	31,344	2,770,368	1,916,524
Diesel and gas oil	.....	.....	.....	.....	100,129	166,162
Gasoline	198,508	28,358	60,389	8,698	2,178,170	2,009,130
Kerosene	.....	.....	.....	.....	57,464	73,619

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Vanco Dev. Co., No. 1 Artesia, Los Angeles Co.	25- 3-12	rig	suspended
Clayton, G. L., No. 1 Cerritos, Los Angeles Co.	31- 3-12	6,640	gr. sh. drilling
Woodward Oil Co., No. 1 Athens, Los Angeles Co.	12- 3-14	4,572	sd. sh. drilling
Sherman, John, No. 1 Athens, Los Angeles Co.	2- 3-14	....	location
Houser, G. W., No. 1 Athens, Los Angeles Co.	18- 3-13	4,037	rig. cable tools
Cypress Pet., No. 1 Athens, Los Angeles Co.	20- 3-13	6,092	deep test
Quinn, J. B., No. 1 Domingues, Los Angeles Co.	3- 4-13	4,587	plug 4,300
Wehrman, J. K., No. 1 San Pedro, Los Angeles Co.	14- 5-14	1,853	resume work
Nudson, T. T., No. 1 Inglewood, Los Angeles Co.	17- 2-14	3,020	Pl. 2,370—idle
Baldwin Oil Co., No. 1 Inglewood, Los Angeles Co.	7- 2-14	6,508	plug 6,060
Scientia Oil Co., No. 1 Inglewood, Los Angeles Co.	7- 2-14	3,806	cemented
Pacific Western, No. 1 Inglewood Deep, Los Angeles Co.	8- 2-14	4,695	hd. sh. drilling
Plymouth Oil Co., No. 1 Inglewood, Los Angeles Co.	8- 2-14	5,550	sd. sh. drilling
Wilshire Oil Co., No. 2 Potrero Deep, Los Angeles Co.	27- 2-14	7,673	formation test.
Community Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	7,447	suspended
Universal Consd., No. 1 Montebello Deep, Los Angeles Co.	5- 2-11	7,505	prod. test
Universal Consd., No. 2 Montebello Deep, Los Angeles Co.	5- 2-11	6,950	suspended
Universal Consd., No. 3 Montebello Deep, Los Angeles Co.	5- 2-11	7,680	suspended
Texas Co., No. 1 Montebello Deep, Los Angeles Co.	6- 2-11	6,942	recemented
Standard Oil Co., No. 1 Montebello Deep, Los Angeles Co.	6- 2-11	6,504	hd. sh. drilling
St. Helens, No. 1 Montebello Deep, Los Angeles Co.	6- 2-11	5,330	sd. sh. drilling
Fullerton Oil Co., No. 1 Montebello Deep, Los Angeles Co.	6- 2-11	5,094	hd. sh. drilling
Pressel & Tull, No. 1 Puente Hills, Los Angeles Co.	30- 2-9	3,100	br. sh. drilling
Barstow Oil Co., No. 1 Saugus, Los Angeles Co.	35- 5-16	2,136	suspended
Barstow Oil Co., No. 2 Saugus, Los Angeles Co.	35- 5-16	300	gr. sd. drilling
International Dev. Co., No. 1 Saugus, Los Angeles Co.	34- 5-16	2,350	hd. sd. drilling
Black Eagle Oil Co., No. 1 Huntington, Orange Co.	tideland	3,985	suspended
Nuoil Co., No. 1 Newport, Orange Co.	29- 6-10	6,455	suspended
Bradford, W. G., No. 1 Newport, Orange Co.	19- 6-10	....	foundation
Platt & Collins, No. 1 Costa Mesa, Orange Co.	14- 6-10	1,471	sd. drilling
Mid-Rich Drlg. Co., No. 1 Atwood, Orange Co.	36- 2-9	2,494	sd. sh. drilling
Union Oil Co., No. 1 Coyote, Orange Co.	22- 3-10	5,035	sd. sh. drilling
Bridger, J., No. 1 Coyote, Orange Co.	15- 3-10	4,000	sd. sh. drilling
Severns Drlg. Co., No. 3 Coyote, Orange Co.	24- 3-11	4,296	sd. sh. drilling
Great American Pet., No. 1 Chino, San Bernardino Co.	18- 2-8	2,642	suspended
Great American Pet., No. 2 Chino, San Bernardino Co.	18- 2-8	3,100	sidetrack D/P
Tehama Pet., No. 1 Santa Ana Canyon, S. Bernardino Co.	33- 2-8	2,194	sd. sh. drilling
San Diego Pet. Co., No. 1 Chula Vista, San Diego Co.	32-18-2	4,062	cemented

Kern County

The Edison area of Kern County is rapidly becoming an unusually active district and from present indications we may anticipate further work during the course of the next few months if the potential field comes up to expectations. The Shell, which pioneered exploration work in both Mountain View and Edison, has started work on two new wells. One of these was spudded in a few days ago and the other is being rigged up for immediate drilling. The Barnsdall, which has not allowed any grass to grow under its feet, is expected to spud in No. 1 Slininger within the next few days. The Mohawk Oil Co., following its success in the Mountain View Field is starting a new well in the Edison area on the Weichelt property and spud should be made within the next 10 days. The Centralia Oil Co. began drilling operations on No. 1 Ukbans early this week and has just passed the 1,000 foot level. The A. T. Jergins Trust is expected to finish No. 1 Hay in Section 22-30-29 in a couple of days and, judging by the saturation of the oil sand cored, should complete a commercial producer. It is quite probable that the Edison area will be linked up with one or more of the Mountain View pipe lines in the immediate future as this district has shown a consistent increase in production during the past 30 days. The next well expected to be finished in the Edison district is No. 1 Nozu of the Monterey Exploration Co. as it topped the oil sand at 2,032 feet and is being prepared for a test at 2,250 feet. Operators in the Duff Pool of the Edison district recently submitted a plan for orderly development and this was approved by the Central Committee of California Oil Producers with the reservation that each well to be drilled in the area must be approved by the oil umpire and provided further that only one well can be drilled to each acre. The projected drilling program for this section of the field has been forwarded to the Petroleum Administrator for approval.

Inglewood

The Shell Oil Co. has beaned back No. 16 Rindge a new well which the company finished in the Inglewood Field of Los Angeles Basin last week in order to comply with curtailment regulations. This well, finished, at 3,244 feet with a 4¾-inch liner including 432 feet of perforated, was producing 700,000 feet of natural gas per day just before being beaned back. The gas showed a natural gasoline content of 2.82 gallons to each 1,000 feet of natural gas. The Standard Oil Co. has concluded drilling operations on No. 105 Baldwin at 2,500 feet and this new well, which was finished with a 4¾-inch liner carrying 147 feet of perforated, is at the present time being bailed and consequently should be tanking oil within the next 24 hours. In addition to this project, Standard has just spudded in No. 28 Vickers and is rigging up rotary drilling equipment on No. 71 L. A. I. The Pacific Western Oil Co., which is working on a projected Miocene test, was still drilling ahead in No. 17 Rubel the well in question at 4,680 feet this morning. This deep test

has already tentatively proved up the possible existence of two additional zones below the Rindge zone now undergoing development.

The Shell Oil Co. recompleted No. 30 G. H. & N. in the Santa Fe Springs Field this week after plugging back the hole from 8,090 feet to 4,454 feet. This well, upon recompletion, was returned to production doing 259 bbls. of 31.5 gravity oil and 560,000 feet of natural gas per day. Santa Fe Springs has shown a surprising recovery during the past several weeks as operators have returned to the field and undertaking extensive reconditioning work. The Union Oil Co. which recently spudded in No. 6 Del Rey in the Playa Del Rey Field should have this well on production within a short time as the company is making preparations to give this project a try in the upper or Recreation zone. The Wilshire Oil Co. has not yet found anything of outstanding importance in its deep test in the Potrero Field of Los Angeles Basin but is still drilling ahead at 7,679 feet.

Long Beach

There were four wells put on production in the Long Beach Field during the current week and one of them proved to be a rather good producer. This was the Southern Empire Oil Co.'s No. 1 Signal a new well which was bottomed at 4,906 feet and brought in doing 810 bbls. of 27.8 gravity oil and 360,000 feet of natural gas per day. This well, which was finished with a 4¾-inch liner including 241 feet of perforated, did not have sufficient kick to result in a natural flow but is showing a satisfactory production while being agitated. The Italo Petroleum Co. successfully completed No. 4 Ellis pumping 91 bbls. of exceptionally clean 26.1 gravity oil per day from 5,045 feet. This well was originally drilled to 6,553 feet and was suspended following the failure to get production at that depth. Drilling was subsequently resumed and the hole plugged back to the completion depth with the results mentioned.

The J. Stowe Carney Oil Co. recompleted No. 2 Ella a few days ago and this well was returned to production pumping 75 bbls. of 28.6 gravity oil per day from 4,854 feet. This well was originally drilled by the Richfield Oil Co. but has been standing idle for some time due to the inability to develop commercial production. When the J. Stowe Carney Oil Co. took over the project it was bottomed at 5,615 feet and in rather bad mechanical shape. The company redrilled the hole to 4,205 feet and ran in and landed on bottom a 4¾-inch liner. The liner was 1,659 feet long, estimated 539 feet of perforated and the casing cemented through perforations at 3,662 feet. Subsequently the company screwed on an additional 2,436 feet of 4¾-inch casing which gave the hole a full string. The production test failed to show much and drilling operations were resumed shortly thereafter. The hole was accordingly deepened to 4,854 feet and a 3-inch liner including 649 feet of perforated landed at this point with the results mentioned above. The Dabney Johnston Oil Co. successfully completed No. 91 Signal but this new well finished at 5,050 feet after being plugged back from 5,095 feet was only good for 165 bbls. of 27.2 gravity oil cutting about 25 per cent water.

Elwood

The Honolulu Oil Co. completed well No. 8 on tideland permit No. 90 in the Elwood Field of Santa Barbara County this week but the output of the well was not any too satisfactory. This new well, bottomed at 3,640 feet, was brought in on the beam pumping 400 bbls. of 36.4 gravity oil per day and while the production was normal the cut, 20 per cent was rather high. The Barnsdall-Rio Grande combination which is developing several properties in this field is drilling ahead in No. 8 Doty in the Sespe at 5,210 feet. No. 9-B on tideland permit

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
General Pet., No. 9 Capitan, Santa Barbara Co.	32- 5-30	2,780	Sespe—drilling
Petroleum Sec., No. 1 Los Alamos, Santa Barbara Co.	6- 7-32	rig	rigging up
Royalty Ser. Corp., No. 1 Los Alamos, Santa Barbara Co.	35- 9-32	....	grading
Shell Oil Co., No. 3 Capitan, Santa Bar ara Co.	32- 5-30	1,290	O. S. drilling
Fairview Oil Co., No. 1 Purisima, Santa Barbara Co.	18- 7-34	3,000	D/P stuck
Barnsdall-Rio Grande, No. 8 Doty Elwood, S. Barbara Co.	15- 4-29	5,210	Sespe—drilling
East Elwood Pet. Co., No. 1 Elwood, Santa Barbara Co.	14- 4-29	3,140	hd. sh. drilling
Shell Oil Co., No. 1 Goleta, Santa Barbara Co.	20- 4-28	1,598	hd. sh. drilling
Standard Oil Co., No. 2 Goleta, Santa Barbara Co.	17- 4-28	3,440	hd. sh. drilling
Hastain & Stone, No. 1 Goleta, Santa Barbara Co.	9- 4-28	2,701	suspended
Union Oil Co., No. 2 Santa Maria, Santa Barbara Co.	24-10-34	2,389	Pl. 2,370—test.
Richfield Oil Co., No. 1 Rincon, Ventura Co.	17- 3-24	2,607	prod. est
Woodrow Pet., No. 1 Rincon, Ventura Co.	4- 3-24	7,612	redrilling 4,991
Continental, No. 3 San Miguelito, Ventura Co.	23- 3-24	5,693	hd. sd. drilling
Texas Co., No. 128 Sou.h Mountain, Ventura Co.	4- 3-19	613	sd. sh. drilling
Oil Ridge Oil Co., No. 1 Fillmore, Ventura Co.	1- 4-19	1,068	hd. sh. drilling
Piru Oil Co., No. 1 Piru, Ventura Co.	14- 4-18	851	sd. sh. drilling
Pac. Dev. Co., No. 1 Santa Susana, Ventura Co.	12- 2-18	rig	rigging up
Williamson & Donaher, No. 1 Simi, Ventura Co.	36- 3-18	1,016	cleaning out
American Drlg. Co., No. 1 Simi, Ventura Co.	6- 2-17	450	sd. sh. drilling
Prop. Service Corp., No. 1 Lloyd, Ventura Co.	24- 3-23	4,782	sd. sh. drilling
Kirk, W. A., No. 1 Sulphur Mountain, Ventura Co.	21- 4-22	2,110	will test
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22- 4-21	2,130	reaming
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	7,370	Pl. 6,750—idle
International Oil Developers, No. 1 Conejo, Ventura Co.	33- 2-20	3,068	suspended
Standard Oil Co., No. 1 McKittrick, Kern Co.	15-30-22	3,647	sd. sh. drilling
Casa Mira Oil Co., No. 1 Belridge, Kern Co.	29-28-20	5,002	Pr. sh. drilling
General Pet., No. 1 South Belridge, Kern Co.	30-28-21	11,377	fish—tubing
Union Oil Co., No. 18 North Belridge, Kern Co.	36-27-20	7,858	O. S. drilling
Standard Oil Co., No. 1 North Belridge, Kern Co.	36-27-20	4,528	redrilling
Associated Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	7,858	Pl. 6,850—test.
Caravel Pet., No. 1 Edison, Kern Co.	19-30-30	1,925	abandoned
Mountain View Dev. Co., No. 1 Mountain View, Kern Co.	12-30-28	4,350	suspended
Gilmore Oil Co., No. 1 Mountain View, Kern Co.	24-30-28	5,860	suspended
Union Oil Co., No. 2 Mountain View, Kern Co.	23-30-28	5,580	P.B. 5,566
Union Oil Co., No. 3 Mountain View, Kern Co.	15-30-28	4,674	sd. sh. dr'lling
General Pet., No. 1 Mountain View, Kern Co.	14-30-28	2,494	sd. sh. drilling
Barnsdall, No. 2 Mountain View, Kern Co.	32-30-29	1,781	sd. sh. drilling
Hogan Pet., No. 5 Mountain View, Kern Co.	32-30-29	4,391	sd. sh. drilling
Standard Oil Co., No. 1 Mountain View, Kern Co.	19-30-29	5,843	125 B/D
Hoyt, Otis, No. 1 Mountain View, Kern Co.	19-30-29	3,912	sd. sh. drilling
Shell Oil Co., No. 1 Mountain View, Kern Co.	30-30-29	1,736	sd. sh. drilling
Monterey Exploration, No. 2 Edison, Kern Co.	32-30-29	2,250	O. S. drilling
Jergins Trust, No. 1 Edison, Kern Co.	32-30-29	2,605	O. S. drilling
Jergins Trust, No. 2 Edison, Kern Co.	14-30-29	100	tech. spud.
Shell Oil Co., No. 1 Edison, Kern Co.	16-30-29	1,030	sd. sh. dr'lling
Barnsdall, No. 1 Edison, Kern Co.	26-30-29	rig	rigging up
Centralia Oil Co., No. 1 Edison, Kern Co.	26-30-29	430	sd. drilling
Commanche Oil Co., No. 1 Commanche, Kern Co.	15-32-29	4,004	sd. sh. drilling
Russ Oil Synd., No. 1 Kingsburg, Fresno Co.	23-12-11	4,004	suspended
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	13-12-11	6,138	fish D/P
Western Gulf, No. 1 S. P., Fresno Co.	15-17-15	8,868	Pl. 8,520—test.
Union Oil Co., No. 1 Lillis-Kettleman, Fresno Co.	24-21-16	10,944	pull 7-inch
The Texas Co., No. 1 Alcade, Fresno Co.	1-21-14	1,392	abandoned
Farrel Pet., Well No. 1, San Luis Obispo Co.	18-31-12	1,091	sd. sh. drilling
Willett Oil Co., No. 2 Cholame, San Luis Obispo Co.	10-25-15	1,764	sd. sh. drilling
Commonwealth Consd. Gas, No. 1 Tulare Lake, Kings Co.	21-22-20	1,690	sd. sh. drilling
Commonwealth Consd. Gas, No. 2 Tulare Lake, Kings Co.	21-22-20	rig	portable outfit
Armadillo Oil Co., No. 1 Tulare Lake, Kings Co.	32-22-20	1,760	cleaning out
Kettleman Pac. Oil Co., No. 1 Tulare Lake, Kings Co.	11-23-16	902	sd. sh. drilling
Weller, Carl, No. 1 Tulare Lake, Kings Co.	11-23-16	900	sd. sh. drilling
Trico Oil & Gas Co., No. 1 Atwell, Kings Co.	33-24-22	2,620	sd. sh. drilling
Douglas, J. M., Well No. 1, Monterey Co.	26-22-9	4,180	abandoned
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	35-16-1	4,350	andesite
Milham Exploration Co., No. 1 Tracy, San Joaquin Co.	5- 4-5	5,800	prod. test
Pure Oil Co., No. 1 Chowchilla, Madera Co.	7-10-14	5,292	sd. sh. drilling

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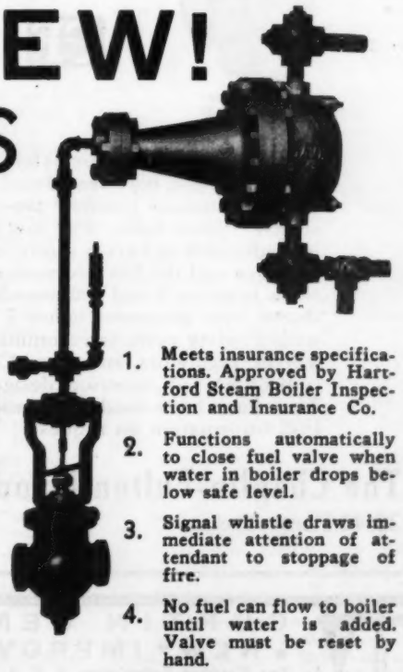

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No. 88, these operators located water in the well at 3,270 feet. The Pacific Western Oil has cemented a string of 13⅜-inch casing in well No. 12 on tideland permit No. 92 at 3,244 feet and should drill out some time within the next few days. In addition to this work, the company is extending its pier on this permit in order to facilitate the drilling of well No. 13 which is scheduled to get under way before the close of August. The East Elwood Petroleum Co. has completely recovered from the mechanical trouble that delayed drilling for a time and is at present rotating ahead in No. 1 Bishop-Evans at 3,125 feet.

In the Goleta Gas Field, the Standard Oil Co. has been having some rather good looking showings in No. 2 Chase & Bryce at 3,425 feet. This new well is showing some green oil on the ditch and if the showings increase this gas field may be changed into an oil field. The Standard's first well on this property was finished as a gas well a little over a year ago. The General Petroleum, discoverer of the Goleta Gas Field, has completed three gas well on the More ranch up to the present time. The Shell is drilling a new well on the Bishop lease in this field but this well at 1,580 feet is not yet deep enough to pick up either the gas or possible oil sand found by the Standard. Developments at Goleta certainly warrant careful watching during the next several weeks due to the showings logged by the Standard. In the Capitan Field of Santa Barbara County, the General Petroleum is drilling ahead in the Sespe in No. 9 Erburu while the Shell is rotating ahead in the oil sand at 1,290 feet. Capitan produces a rather heavy crude oil but since the field is located at tidewater it is a factor of economic importance due to the large shipments of fuel oil to Japan and to the east coast for domestic consumption.

Ventura Avenue

It appears quite probable that two new wells will be finished in the deep 57 zone in the Ventura Avenue Field before the close of the current year and, based on drilling already under way, we may anticipate additional completions in this zone early in 1935. The Shell's No. 77 Taylor is rotating ahead in oil sand at 9,456 feet but the outcome of this well remains to be seen as recent cores show dips of approximately 50 per cent. This is rather high but at the same time the well has been showing up in good shape and is expected to result in substantial production. The Associated Oil Co.'s No. 133 Lloyd is another well that should be in a position for an early production test in the deep zone as this project is rotating ahead at 9,150 feet in an exceptionally good looking oil sand. General Petroleum's No. 13 Notten is not yet deep enough to pick up the deep 57 zone, but should top the deep pay later this year.

The Continental Oil Co. should top the pay shortly in No. 3 Grubb in the San Miguelito Field of Ventura County as the hole is already down 5,664 feet. This well should be finished within the next 60 days barring the development of mechanical trouble. The first two wells finished in this field by Continental Oil Co. both showed commercial production. This is of particular importance because the Continental apparently controls practically all of the productive acreage. The Chanslor Canfield Midway Oil Co. has finished one small well in this field but does not seem to have any further locations available. The Texas Co. has spudded in No. 128 Shiells, an outpost in the South Mountain Field of Ventura County and this location appears to have considerable merit. Up in the Los Alamos district of Santa Barbara, the Petroleum Securities is rigging up its test in section 6-7-32 and should begin making hole within the next few days. The Royalty Service Corp. is grading location for a test to be drilled on the Tinaquaic ranch in the Sisquoc area and rig construction should be under way within the next several days. In the Santa Maria district, the Union is still working on No. 1 Moretti, a wildcat which has been showing up rather promising but it may be another 10 days before any definite conclusions are reached, due to sand trouble.

Kettleman Hills

The Middle Dome Corp. is rotating ahead in its test well in the Middle Dome of Kettleman Hills at 7,135 feet and this project should top the Temblor at about 7,500 feet. Actual drilling on the well is being done by the Petroleum Securities which will retain control of the project until all costs have been liquidated by the resulting production. After Petroleum Securities has recovered its entire development costs the well becomes the property of the Middle Dome Corp. The same procedure will be followed with respect to the well already completed in this field by the Standard Oil Co.

The Central Committee of California Oil Producers, which is charged with the obligation of prescribing the allowable daily production of California fields, has approved a plan for the allotment of production in the Kettleman North Dome Field. Under this new method, where the procedure of allocation is determined by the Kettleman Hills Advisory Board, the volume of oil produced will be the sole factor in determining the future allowable production of wells in that area. Under the former method, the allowables of wells were computed according to formation volume which was the total volume of oil and gas taken from a formation. Under the net set-up, wells having a high gas-oil ratio are not penalized to such an extent as formerly. It appears quite probable that completions in the Kettleman North Dome Field will be rather numerous during the remaining months of the current year and consequently the potential daily production of this field should exceed 500,000 bbls. per day by the time the new year rolls around. Present potential is 420,510 bbls. per day but it does not take many of these 10,000-bbl. wells to add another 100,000 bbls. The potential daily production of this field, unlike several others, is not entirely fictitious as frequent tests indicate that the field is still able to make its prescribed allowable with ease. One should remember in the case of Kettleman North Dome, however, that this field has really only been scratched as far as development work is concerned and consequently there is still a sufficient amount of natural gas to maintain production for a long time to come. Only a few thousand acres out of the entire 16,000 acres considered as proved up has been developed up to the present. Another factor that should tend to extend the longevity is the fact that operators are only drilling one well to each 20 acres. This provides ample drainage for all wells and should prolong the flowing period of the field. The Superior Oil Co. has decided to make a deep test of its final well in the North Dome and the outcome of drilling may have a very decided effect on future production of the field because if the company finds the underlying Eocene productive it will revive drilling operations unless operators decide to retard future work.

Mount Poso

Staking of locations for eight new wells and construction work under way for new rigs for four additional wells indicates rather conclusively that the Mount Poso Field of Kern County will continue rather active during the next several months. It does not take very long to drill these 2,000-foot wells but at the same time operators will probably string out development work over a period of three or four months. The Union Oil Co. has staked locations for four new wells and is rigging up rotary equipment in No. 15 S. & M. preparatory to an early spud. The Shell has staked locations for three new wells and is building foundation for a new rig on the Vedder-Rall property. The Pongratz Oil Co. topped the upper Vedder zone in No. 3 Travis at 1,727 feet and concluded drilling operations at 1,839 feet. The company is running in tubing and this well should be on production before this gets into print.

In the Midway-Sunset Field of Kern County, drilling operations seem to be easing off slightly although this field will continue to be relatively active during the next several months. The Honolulu area, due to the drilling of two rather unsuccessful wells is not quite as hot as it was a few months ago with the result that both the Honolulu and Standard have decreased drilling. The Standard has quitclaimed the Mascot lease in this field and in doing so killed a boom that started several years ago when exploratory work indicated the possibility of developing deep production in this section of the Midway-Sunset Field. The Standard paid a rather high bonus for this property and drilled a deep well on the property without results although some showings were logged during work. The Standard suspended drilling operations when the showings were found in order to encourage improvement in the oil business but when the company went back into the hole 18 months later it could not find the oil sand logged before drilling was suspended. For this reason the area is still untested as it is the general belief that the heavy mud put in the hole had ample time to definitely seal off any oil sand during the period that the well remained idle.

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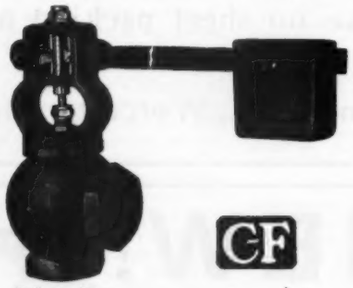

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Eleven Completions and Three Dry Holes in East; Overproduction Causes Allowable Reduction

By STAFF CORRESPONDENT

PITTSBURGH, Pa., July 30. — The August schedule has cut back all Pennsylvania Grade districts with Pennsylvania's allowable given the most severe cut. In the lower fields, while production totals have steadily improved, there is no apparent accumulation of crude stocks in spite of some very fair new production. Offsetting this in the upper country or Bradford districts where repressuring has been carried on, some operators have progressed too fast with the resultant distress to refineries which had contracted for their total production. This with the easing of the refined markets has caused a feeling of apprehension among Pennsylvania Grade crude operators.

There were 11 completions and 3 dry holes in the lower eastern fields during the past week. Among these were five small producers with an initial production of only 15 bbls. and some very fair gas wells.

SOUTHEAST OHIO

The largest well for the week was the test of the Wittmer Oil and Gas Properties in Section 1, Grafton Township, Lorain County, just west of the town of Grafton. It was completed on the Louis M. Mennell farm in the Clinton sand at a depth of 2,573 feet and gauged about 5,500,000 feet a day.

In other parts of Southeast Ohio, the results were small. In Columbiana County, the Penova Oil Co. completed a test on the Clyde Conrad farm in the SW of Section 30, Knox Township, in the Berea sand at 740 feet. It produced 1, bbl. the first day, natural, which was doubled by shot.

In Guernsey County, Kenova Gas & Oil Co. completed a well on the J. W. Fowler farm in Section 10, Wheeling Township in the Berea sand at 1,215 feet. It is showing for a 1-bbl. pumper after shot.

In Jefferson County, Altamount Oil Co. drilled No. 3 on the Elmer Hardy farm in the SW of Section 28, Steubenville Township. It was drilled to 1,520 feet and found no sand and was abandoned as a dry hole.

In Medina County, D. A. Lake completed No. 14 on the Pearl and Frank Weaver farm in Section 1, Litchfield Township, in the Berea Grit at 310 feet. It produced 5 bbls. the first day after shot. In Harrisville Township, Lot 62, same county, E. R. Edson & Son Co. drilled a test on the S. Hartman farm through the Berea Grit to 500 feet. It was a dry hole.

WEST VIRGINIA

In West Virginia two small producers were completed. On Trace Fork in DeKalb district, Gilmer County, Clem Morris and others completed No. 4 on the Cora B. Gainer farm in the Salt sand at 1,681 feet, showing for 5 bbls. a day.

In Wood County, on Plum Run in Williams district, Charles S. and Lillian Smith completed No. 6 on the Tim McAtee farm in the Salt sand. It will make a 2-bbl. pumper.

There were no new completions in the lower end of the Pike Pool in Clay district, Ritchie County, about a mile and a half northwest of Ellenboro. A small town lot excitement has started in that section with several very close locations made. The latest new well to start is that of W. H. Bickel who has moved in a drilling machine on the Fred Pifer farm. It is 800 feet west of the producer on the Earl Wilcox farm.

There were several fair gas wells completed in West Virginia. In Gilmer County, on Tanner Creek in DeKalb district, McCall Drilling Co. completed No. 4 on the Lee Gainer farm in the Injun sand at 1,797 feet. It is showing for 2,000,000 feet a day after shot.

In Monongalia County, Housch Glass Co. completed a test on the Charles Barrickman farm in Cass district in the Injun sand at a depth of 1,925 feet, showing for a fair gas well.

In Ritchie County, on Big Run 2 miles west of Cairo in Grant district, Big Run Oil & Gas Co. completed a second test on the E. S. Gilmore farm in the Salt sand. It is good for about 1,500,000 feet a day. In Murphy district, on Leatherbark Creek about 1,000 feet from the Fluharty Heirs farm, L. P. Bickel completed a test on the Morris Brothers farm in the Injun sand at 1,842 feet. It is showing for about 800,000 feet a day with a light showing of oil.

In Calhoun County, Mudlick Oil & Gas Co. drilled the second test on the Almeda Meadows farm in Lee district through the Injun sand to 1,916 feet. It was dry.

Drilling in West Virginia

There are several new tests starting in West Virginia. In Boone County, Godfrey L. Cabot, Inc. is moving in the tools to start a test on the Spruce-Boone Land Co. in Washington district. Here, the same operator has reached 900 feet on the White and Hopkins lease. Pond Fork Oil & Gas Co. is down 725 feet in No. 18 on the Cole and Crane lease. In Sherman district, Godfrey L. Cabot, Inc. is drilling at 3,316 feet in No. 53 on the Federal Coal Co. lease and has a rig standing for No. 54. His No. 3 on the J. Q. Dickinson lease is drilling at 2,541 feet. In this district, Pure Oil Co. has four wells drilling. The one in oil territory on the Williams Coal Co. lease, No. 260, has reached 1,820 feet. No. 67 on the Federal Coal Co. tract has reached 2,097 feet and No. 68, 1,478 feet. The second test on the Lafollette and Robson and Prichard tract C is drilling at 995 feet.

In Cabell County, McComas district, H. H. Baker Gas Co. has started drilling a second test on the Augusta Beckett lease. R. H. Adkins and others have reached 2,485 feet on the C. P. Rousey farm. West Virginia Gas Co. is drilling at 850 feet on the Alifair Adkins farm. In Barbourville district, United Fuel Gas Co. has started drilling the second test on the J. W. Starkey farm. No new wells were started in Guyandotte district.

In Calhoun County, F. F. McIntosh has made a location for No. 5 on the Mary E. Hays farm in Lee district. In Washington district, Jackson and Bowers have started drilling on the Charles White farm. The Ohio Valley Gas Corp. is drilling past the 1,000 foot level on the N. L. Norman farm. In Sherman district, L. P. Bickel is building a rig for No. 15 on the Martha Stump heirs' farm. H. B. Scott is down 1,720 feet on the P. Fling heirs' farm. Kenny M. Hunt and others have reached 750 feet on the Glen Wilson farm. Godfrey L. Cabot, Inc. is drilling near the Injun sand in No. 9 on the W. T. Rafferty farm which is being drilled deeper. In Sheridan district, Bickerstaff and others have reached 1,650 feet in No. 4 on the William Cooper farm and Richter Oil Co. has built a rig for No. 5 on the Z. O. Cooper farm.

In Clay County, South Penn Oil Co. is building a rig for No. 108 on the O. D. Stockley farm in Henry district. Across the line in Geary district, Roane County, United Fuel Gas Co. is building a rig on the S. C. and Lucy A. Ross farm.

In Gilmer County, McCall Drilling Co. has a rig standing on the E. R. Cawthon farm in DeKalb district. In Center district, Hope Construction & Refining Co. has completed a rig on the A. H. Blackshire farm in Center district, 279 feet east of the Godfrey L. Cabot, Inc. heavy producer. Hope's test west of this producer did not strike the heavy pay. In this district. E. D. Norman and others have completed the rig on the Hulda Moore farm.

In Harrison County, Chieftain Oil & Gas Co. has started to drill deeper the old gas well, No. 1, on the A. H. Perine farm in Ten Mile district. The depth is now 2,900 feet. In this district, the second test of Raad and Moses on the A. P. W. Flannigan farm is drilling at 2,535 feet.

Four Wells Drilling

In Kanawha County, Godfrey L. Cabot, Inc. has four wells drilling. In Malden district, No. 7 on the Campbells Creek Coal Co. is down 1,296 feet and No. 6 on the W. P. Tomkins lease, 1,700 feet. In Cabin Creek district, No. 45 on the Arabella D. Huntington lease has reached 1,175 feet and No. 46, 185 feet.

In Lincoln County, United Guel Gas Co. is drilling on the Charlotte Watson farm in Sheridan district. In Laurel Hill district, same company is plugging the test on the Guyan Land Assn. In Jefferson district, David Gas Co. is skidding a rig on the T. W. Dolan farm. In Carroll district, R. H. Adkins and others are rigging up on the Henry Huffman farm.

In Marion County, Monroe and Laughlin have reached 2,400 feet on the Howard Rice farm and Carnegie Natural Gas Co. is drilling at 1,880 feet on the Marthan E. Keenan farm, No. 2. Both are in Mannington district. In Marshall County, Hazlett Bros. are drilling deeper No. 1 on the Ferdinand Otto farm in Union district.

In Monongalia County, Curtis Fleming has purchased the Pedlar Run Oil Co. lease on the Lewis R. Hess farm on Pedlar Run in Clay district and will drill No. 1 which has been standing at 2,570 feet to lower sands. In this district, Cartiers Oil Co. is down 1,800 feet on the Simon Shriver Heirs farm. In Battelle district, Harry L. Tennant has reached 3,220 feet in No. 5 on the Wise and Tennant lease.

In Ritchie County, in the Pike Pool, S. C. Mackey and others are drilling at 625 feet on the Charles Wilcox lease,

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South Turner Valley Field Is Extended to the Southeast by Big Producer

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, July 28.—Official figures of crude oil production from Alberta pools in June show a total of 95,820 bbls., a decline of 8,788 bbls. from the May total of 104,598 bbls. The official report attributes this decline to curtailed recovery of naphtha at the gasoline absorption plant. Turner Valley naphtha production dropped from 99,750 bbls. in May to 91,639 bbls., while Turner Valley light crude was up from 1,544 to 1,555 bbls. Red Coulee light crude dropped from 2,032 to 1,682 bbls. and Wainwright heavy crude from 1,272 to 1,214 bbls.

For the five months' period ending May 31, the crude production from all Canadian fields aggregated 607,660 bbls., against 417,811 bbls. in the same period last year.

Highwood-Sarcee Producer

In the new southeasterly extension of the South Turner Valley Field, Highwood-Sarcee Oils' No. 1, LSD 16, Section 21-18-2w5, has a big crude naphtha production in the main porous horizon of the Madison limestone at around 5,762 feet where the test is about 410 feet in the lime. It got the porous horizon around 5,723 feet, wet gas production steadily increasing as the hole was deepened. An early test indicated 20,000,000 feet a day with 100 bbls. naphtha recovery in eight hours, but later the flow jumped to more than 28,000,000 feet with naphtha recovery more than 500 bbls. a day.

Highwood-Sarcee's No. 1 is finishing as one of the biggest producers in the history of the field. It proves an extension approximately a half-mile southeast of previous production. Before the drill entered the lime a good light crude production, around 100 bbls. a day or better, was met in the Dalhousie sand at 5,046 feet, and an unexpectedly large crude naphtha recovery has been secured from the top of the lime, where most wells give a small wet gas flow.

The strike is expected to result in increased testing of the structure south and east. Several wells are already drilling farther south on the line of the structure. Offsetting Highwood-Sarcee's No. 1 to the west, Myers & Wright's No. 2 Pacalta, LSD 14, Section 21-18-2w5, is standing cemented at 573 feet, but will resume in a few days. Still farther south, on the eastern edge of the section, Union Freehold Oil Corp.'s No. 1, LSD 8, has set 13⅜-inch casing at 3,663 feet and is drilling open hole below 3,685 feet. On the west side of the section, Northwest Royalties' No. 1 Prairie, LSD 5, is below 1,077 feet. Southeast of this location, Highwood Royalties' No. 1 Oliver, LSD 3, is below 500 feet.

Okalta Oils' No. 6 has been located in LSD 14, Section 16-18-2w5, in the LSD immediately south of Highwood Royalties' No. 1. This will be the farthest south test in the field.

Mar Jon Section

In Section 28-18-2w5, Mar Jon Oil Co.'s No. 2 Kindersley, LSD 10, has been showing a small but steady increase in

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Trend South and West From Mt. Pleasant Field Clearly Indicated by Completions and Permits

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

MUSKEGON, Mich., July 30.—The trend of oil developments southward and westward from the Mount Pleasant area in central Michigan was clearly indicated in completions, new permits, present drilling activities and in plans for new refineries revealed last week. Interest of operators, scouts, lease hounds and refiners again was centered in the Montcalm-Mecosta trend extending for about 30 miles in a northwest-southeast line between the Austin Township, Mecosta County, gas field on the north and the Home Township, Montcalm County oil pool on the south. Although no large new completions were reported, several important developments in this area now being tested by the drilling of 25 or 30 semiwildcat and wildcat tests resulted.

Old Dutch Oil & Gas Co.'s No. 1 Forgar, NE SE SE Section 11-12n-7w, Belvidere Township, Montcalm County, was increased more than 1,000,000 feet a day in open flow capacity to nearly 6,000,000 feet by deeper drilling in the Michigan sands at about 1,250 feet. Although started in search of a new supply of crude for the Old Dutch Refining Co. of Muskegon, it has been completed at least temporarily as a gasser indicating either a new pool or a considerable extension southeast of the Austin and Hinton Township gassers in the adjoining Mecosta County.

Daily Crude Oil Co.'s No. 3 H. P. Christensen, SW SW SE Section 3-12n-6w, Home Township, Montcalm County, will be acid treated for a show of oil and gas encountered with water in the upper Traverse formation. It is an offset to two producers.

Two Montcalm County wildcats struck water in the Dundee and one in the upper Traverse last week. Daily Crude Oil Co.'s No. 1 O. Blair, SW SE SE Section 11-11n-5w, Ferris Township, struck bottom water in the Dundee at 3,440 feet and probably will be abandoned. Theodore Oil Co.'s No. 1 John Sherwin, SW SW SW Section 13-12n-6w, Home Township, encountered water in the Dundee and was plugging back to shoot and treat for a show in the upper Traverse. Rex Oil & Gas Co.'s No. 1 A. Johnson heirs, NW NE NE Section 17, Home Township, struck water in the Traverse between 3,180 and 3,200 feet and was drilling to test the Dundee.

Dundee Possibilities

Geologists differ over the Dundee possibilities in this area, some claiming it pinches out or exists only in a small layer with the Monroe, a lower Devonian limestone, compared with Dundee and Traverse limestones, middle Devonian formations, more likely to occur for possible deeper production.

Rex Oil & Gas Co.'s No. 1 H. P. Arbaugh, NE NW NE Section 34, Home Township, was the deepest of about 15 drilling wells in Home, Day, Ferris and Crystal Townships of Montcalm County as the week closed.

J. M. Taggart and others obtained a permit for No. 8 on the Fen Johnson lease, C NE NW Section 4-14n-9w, Austin Township, Mecosta County, latest test to develop enough gas to warrant the beginning of construction on the 55-mile pipe line proposed by the American-Michigan Pipe Line Co. to serve Muskegon and Muskegon Heights consumers.

Possibilities of the longest producing gas structure yet developed in Michigan are seen in wells and shows to date in Austin and Hinton Townships, Mecosta County, Belvidere, Home, Ferris and Richland Townships, Montcalm County.

W. Hunter Atha's No. 1 Harry W. and Sarah E. Davenport, C SE NE Section 16-11n-5w, Ferris Township, showed for an estimated 200,000 feet a day in the Michigan sands but continued toward the Traverse for oil.

New Completions

Three new Dundee oil producers were completed in the Porter Township, Midland County, Pool where new operations are showing a slight decline despite continued larger initials than in any other Michigan area. The three new producers with an increase in a fourth Porter well after treatment and two other completions, one in Denver and the other in Vernon Township, Isabella County, added about 3,500 bbls. of new initial.

Pure Oil Co.'s No. 7 A. C. Wyant, SE NW SW Section 16-13n-1w, Porter Township, made an estimated 1,000 bbls. a day in Dundee encountered at 3,396 feet. Pure's No. 2 Alexander, NE SE SE Section 18, same township, was rated at 768 bbls. initial in the Dundee also striking pay sands at 3,396 feet and completing at 3,411 feet. M. D. and R. A. Wells' No. 1-B Walter Williams, NW NW NW Section 27, made about 500 bbls. a day while C. W. Teater and W. R. Kales' No. 2 Frank Neitzke, NE NW NE Section 28, topped Dundee at 3,384 feet and drilled to 3,430 feet with about 1,000 feet of oil in the hole to be treated.

Strange Oil & Gas Co.'s No. 4 Sam Walley in Section 16, flowed 541 bbls. in 11 hours for an estimated increase of about 1,000 bbls. a day over 40 bbls. before treatment. McClanahan Oil Co.'s No. 3 Norman E. and C. N. Breu, NW SE NE Section 20, brought in last week for an estimated 2,000 bbls. actually was rated 1,798 bbls. daily potential.

Gordon Oil Co.'s No. 2 Greene, SE NE NE Section 13-13n-2w, Jasper Township, Midland County, had 1,000 feet of oil in the hole and was to be treated. McClanahan Oil Co.'s No. 1 Converse, SE SE NW Section 28-14-2w, Greendale Township, same county, was showing well in upper Traverse where it will be treated after plugging back from Dundee in which water was encountered at 3,492 feet. L. G. Thompson's No. 1 Shirts, Section 17, Greendale Township, shut down for several months, struck a show in Traverse and is drilling.

Isabella County

W. J. Bernier, or Mohawk Development Co.'s No. 1 James Duncan, NE SW SW Section 23-16n-4w, Vernon Township, Isabella County, had 75 feet of oil in the hole and was drilling deeper. Mammoth Petroleum Co.'s No. 1 Julius and Carolina Schug, SE SE SW Section 22, same township, was rated a small producer of 25 to 50 bbls. a day in the Dundee.

Hirzel Land Development Co.'s No. 1 Anton Weczensky, NW SW SE Section 35-15n-3w, Denver Township, topped the Dundee at 3,622 feet and drilled to 3,661 feet for a show of oil to be treated. Jasmid Oil Co.'s No. 1 Weczensky, Section 33, same township, also was reported a possible producer if acid treated.

Dry Holes

Four unsuccessful tests were reported in Porter Township, Midland County, Bethany Township, Gratiot County, Arcadia Township, Lapeer County and Fruitport Township, Muskegon County wildcats. McClanahan Oil Co.'s No. 1 J. Oliver, SE SW SE Section 23-13n-1w, Porter Township, Midland County, topped the Dundee at 3,385 feet and was dry at 3,473 feet with no show. Mid-State Development Co.'s No. 1 W. L. Yost, NW SE Section 27-12n-2w, Bethany Township, Gratiot County, struck water in the Dundee at 3,378 feet after topping the formation at 3,320 feet. It may be deepened. Gordon Oil Co.'s No. 1 Christian Smith, NE NW SE Section 4-8n-11e, Arcadia Township, Lapeer County, southeastern Michigan, was 90 feet in the Dundee with nothing showing. Muskegon Oil Corp. completed another wildcat "duster" in its No. 1 Mary Halter, SW SW SW Section 22-9n-16w, Fruitport Township, Muskegon County, striking a hole full of water at 2,131 feet and plugging immediately.

New Locations

Permits for 12 new locations were issued: Broomfield Township, Isabella County—Lupher Drilling Co.'s No. 1 R. F. Baer, NE NE Section 36-14n-6w; Arbaugh Brothers' No. 1 Ray Aldrich, C NE SE Section 22, and Bundy Hill Natural Oil & Gas Co.'s No. 1 W. Russell, NE NE Section 6. Fred W. Turner and others took out permits for No. 1 Harris-Bond, NE SE Section 7-13n-1w, and No. 2-B George Root, SE SW Section 21, both in Porter Township, Midland County.

Permits were also issued for Allen Park Oil & Gas Corp.'s No. 1 W. Stephens, SE SW Section 36-12n-6w, Home Township, Montcalm County; J. M. Taggart and others' No. 8 Fen Johnson, C NE NW Section 4-14n-9w, Austin Township, Mecosta County, already drilling at about 800 feet, and Hall-Be-Oyl Gas Corp.'s No. 1 O. D. Leiter, SW NE SW Section 33-15n-6w, Sherman Township, Isabella County, another central Michigan wildcat location.

Three other wildcat locations follows: Ward J. Brunt, trustee's No. 1 John Koczara, NE NW Section 17-17n-4e, Pinconning Township, Bay County, eastern Michigan, and two in southeastern Michigan, namely: Oak Oil Co.'s No. 1 State Bank of Standish, NW SW Section 19-18n-5e, Standish Township, Arenac County, and Power Oil Co.'s No. 1 Collins Broomer, NW NW Section 33-7n-6e, Flint Township, Genessee County.

McClanahan Oil Co.'s No. 4 Hathaway permit was canceled and No. 1 C. Hoyt, S half SW SE Section 18-13n-1w, Porter Township, Midland County, substituted. Chartiers Oil & Gas Co. has moved a rig on a 13-acre plot in Section 21, Vernon Township, to offset Columbia Oil & Gas Co.'s No. 1 Simpson recently completed. Pure Oil Co. has been core testing in Fremont Township, Isabella County, for several weeks in an area southeast of the Broomfield Township gas field.

Central Ohio Is Most Active of Central West, With 14 Completions in Week

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, July 30.—Central West fields show little activity during the past week, although most of the divisions are represented by one or more new wells, with Central Ohio showing the greater activity.

The Lima Field appears to be in for more activity than usual. Near the town of Elmore in Ottawa County, Charles Shell, agent, drilled in a 4-bbl. well, in No. 2 William Kuhlman farm, Section 14, Harris Township, at a total depth of 1,296 feet, in Trenton lime. Mrs. Zella Shell is ready to spud in No. 1 Colman Szakevitz, same township and county.

In Hardin County, Kenton Oil & Gas Co.'s test on the John McMahan farm, Section 17, Pleasants Township, is a gas well at a total depth of 1,329 feet. In Marion Township, same county, the Cottonwood Oil Co. is drilling close to the Trenton lime, the source of the oil and gas in the field, on the C. L. and S. A. Sinift farm, Section 11, and the Claridon Oil Co. is drilling on the H. C. Harnhart farm, Section 11, Claridon Township, same county.

In Sandusky County, A. R. Smith abandoned No. 10 H. L. Smith farm, Section 8, Jackson Township, and in Scott Township, T. J. Martin abandoned Nos. 1, 2 and 3 William Myers farm, Section 19, and same party abandoned Nos. 1 and 2 on the J. W. Bonawit farm, same section and county, all of them old wells.

In the Seneca County Field, the Kenton Oil & Gas Co. is drilling No. 2 on the John McMahan farm, Section 17, Pleasants Township, and if it shows anything like No. 1 on the same farm, that part of the county will get a heavy play. No. 1 started above 1,000,000 feet.

In Tymochtee Township, Wyandot County, Failor and others are drilling a test on the H. W. Failor farm, Section 32, and about a mile from the good gas well on the Ella Walton farm, in Section 33, same township, owned by Leister and others.

CENTRAL OHIO FIELD

Fourteen completions were reported from the Central Ohio Field for the week past, of which four were oil wells with an initial of 82 bbls., three dry holes and seven gas wells, distributed over the vast area of territory.

In Ashland County, Robison & Co.'s No. 1 A. J. McClure farm, Section 10, Lake Township, is a gas well, with a slight oil showing. Ohio Fuel Gas Co. has a rig in for No. 1-5,856 on the Charles H. Stanley farm, Section 18, Sullivan Township. Same company has No. 1-5,830 drilling on the D. Stacher farm, Section 32, Perry Township. Robison and others are drilling No. 7 Emma A. Devinney farm, Section 9, Lake Township, as well as No. 5 for the same parties on the J. F. Heffelfinger farm, same section and county. Moore and others are drilling No. 8 Clark Alber and others farm, Lot 34, Mohican Township, same county.

In Medina County the O. K. Oil & Gas Co.'s No. 63 Henry Essig farm, on Lots 2 and 3, Chatham Township, produced 8 bbls. initially at 471 feet, and the E. R. Edson Sons Co.'s No. 48 on the E. G. Miller farm, also in Chatham Township.

(Continued on Next Page)

Kansas Fields

(Continued from Page 63)

pleted for 10 bbls. daily after a shot of acid.

Greenwood County

Ward McGinnis' wildcat test, No. 1 Sample CNL NE SE Section 16-25-10e, Greenwood County, was dry and abandoned with a hole full of water coming from lime from 2,095-2,125 feet, total depth.

Aikman & Braden's No. 1 Isch, CNL SW NE NW Section 26-22-13e, had lime from 1,845-87 feet, total depth, which was dry and the well was abandoned.

Sumner County

Morgan & Flynn's No. 1 Mercer, NW NE NW Section 36-32-1w, Sumner County wildcat test, topped chat at 3,697 and was shut down at 3,706 feet with a show of oil.

Woodson County

The Woodson Pipe Line & Producing Co.'s No. 1 Scott, NW SW Section 23-26-14e, Woodson County, was completed for 15 bbls. on the pump after a 40-quart shot was given sand from 1,247-61 feet. Total depth was 1,275 feet.

Central West Fields

(Continued from Preceding Page)

same county, produced 5 bbls. at 515 feet. Ohio Fuel Gas Co. has a rig up for No. 1-5,863 on the Eliza Briggs farm, Lot 2, same township. In Montville Township, same county, D. A. Lake's No. 13 Pearl and Frank Weaver farm, Lot 1, produced 10 bbls. initially at 299 feet. In Medina Township, Ohio Fuel Gas Co. is drilling No. 1-5,862 on the Mable P. Spicer farm, Lot 21.

In Lorain County, Wittmer Oil & Gas Co.'s No. 1 on the Louis M. Mennell farm is reported with a gas volume of 5,000,000 feet at a depth of 2,573 feet. Ohio Fuel Gas Co. has a rig up for No. 1-5,841 on the A. S. Gibson farm, Lot 80, Columbia Township, same county. Same company is drilling No. 1-5,843 on the J. T. Moon farm, Lot 23, Carlisle Township, same county. Wittmer Oil & Gas Co. is drilling No. 1 on the J. J. Wargo farm, Lot 78, Eaton Township, same county.

In Holmes County, Ohio Fuel Gas Co. has a rig in for No. 1-5,844 Silas Pyers farm, Section 20, Monroe Township.

In Wayne County, Ohio Salt Co. is drilling a test on the Ohio Salt Co.'s fee property in Chippewa Township. John Harpster is shut down on the E. and F. Beichler farm, Section 6, Chippewa Township, same county.

In Fairfield County, City Natural Gas Works is drilling No. 4 on the S. A. McClurg farm, Section 36, Berne Township, and the same company has a rig up for a test on the Charles Fauble farm, Section 34, same township. Same company has a rig in for No. 4 Rebecca Loose farm, same township.

In Cuyahoga County, Dillon & McFrederick made a location on the John Zuber farm, Lot 58, Strongville Township.

In Knox County the Pure Oil Co.'s No. 1 on the J. S. Stricker farm, Section 1, Jackson Township, is a gas well at 3,260 feet. Same company's No. 1 on the B. R. Basine farm, Lot 8, Union Township, produced an initial of 59 bbls. at 3,162 feet.

In Licking County, McClay Brothers' No. 1 W. R. Bourne farm, Section 1, Fallsburg Township, produced an initial of 10 bbls. Upham Gas Co. is drilling No. 3 Charles M. Babcock farm, Section 14, same township, and the Blue Rock Oil Co.'s No. 4 Rachael Freece farm, same section is drilling. In Franklin Township, E. J. Rodman's No. 4 Thomas Smith farm was a dry hole at 2,851 ft.

In Muskingum County the Ohio Fuel Gas Co. made a location for No. 1-5,858 Alley Mattingley farm, Section 18, Muskingum Township. Mid-East Oil Co. has a rig in for a test on the Benjamin F. Young farm, Section 17, Salt Creek Township.

In Athens County, Berne Township, E. N. Williams is drilling No. 1 John E. Hill farm, Section 24. Ohio Fuel Gas Co. is drilling No. 1-5,817 on the George W. Fulton farm, Fractional Sections 25-31, Lodi Township. Same company has a location for No. 1-5,864 J. C. Burson farm, Fractional Section 30, same township. C. W. Nuzum is drilling No. 1 Warren Mann farm, Fractional Section 5, Rome Township, same county.

In Stark County, White and others struck a gas well in No. 1 on the James M. Snyder farm, Section 23, Perry Township, at a total depth of 4,552 feet. Ohio Fuel Gas Co. is drilling No. 2-5,846 on the Howard Hoverland farm, Section 10, Jackson Township, same county. In Plain Township, same county, Cable & Campbell's test on the Avondalde, Inc., property, Section 30, same township, was a dry hole at a total depth of 4,487 feet. East Ohio Gas Co.'s No. 2 Hoover Development Co.'s farm, Section 9, same township, is a gas well at 4,526 feet. Same company struck a nice gas well in No. 2 William J. Pontius farm, Section 16, same township, at 4,607 feet. Same company has a rig for No. 1 on the Catherine Schumacher farm, Section 21, same township, while the same company's No. 3 Charles Pontius farm, Section 16, is drilling. Brendel Producing Co. is drilling No. 3 I. and E. Markley farm, and the same company has a rig in for No. 1 M. E. Humbert farm, Section 14, same township.

In Guernsey County, Ohio Fuel Gas Co.'s No. 1-5,847 on Charles V. Foraker farm, Lot 20, Willis Township, is a gas well at 1,466 feet. Same company is drilling No. 1-5,857 on the William W. Woodburn farm, Lot 21, same township. Same company has a location for No. 1 on the J. L. Lent farm, Lot 22, and drilling No. 2 on the D. M. Nesbit farm, Lot 21, same township. George Jewell is drilling No. 1 on the Cowden-Henderson farm, Lot 28, Milwood Township, same county.

In Meigs County, Ohio Fuel Gas Co. has a location for No. 1-5,849 on the Walter Hysell farm, in Rutland Township. In Lebanon Township, same county, John Mayer and others' No. 1 Abner Price farm, Lot 8, is a gas well. Same company is drilling No. 1-5,826 C. E. Bryan farm, Section 9, Rutland Township. Same company has a location for No. 1 Herbert Whaley farm, Lot 3, same township. In Lebanon Township, Ohio Fuel Gas Co. has a location for No. 1-5,869 on the S. M. Cross farm, Lot 30, and also a location for No. 1-5,870 on the Arthur Lovett farm, Lot 25, same township. Joe Rubin and others are drilling No. 1 on the Everett Mosier farm, same township. Ohio Fuel Gas Co. has a location for No. 1-5,852 on the E. J. Searls farm, Lot 8, Rutland Township, same county. Same company is drilling No. 1-5,853 James S. Titus farm, Lots 4-10, same township. Joe Rubin and others are drilling No. 1 Mary J. Cobb farm, Section 8, same township. Rutland Gas Co. is drilling No. 1 L. M. Haley farm, Lot 8, also in Rutland Township. Burton & Utsinger are drilling No. 1 on the Katherine Luckadoo farm, Lot 9, and Nelson and others are drilling No. 1 Benson & Burney farm, Section 4, same township, and the Harrisonville Gas Co.'s No. 1 Eva Welch farm, Lot 23, is drilling.

In Knox County, Lacknett and others are drilling No. 2 Oliver Mills farm, Lot 4, Butler Township. H. E. Perkins has a location for No. 1 Sol B. Rice farm, Lot 20, same township. R. H. Bright is drilling No. 29 Mary McKee farm, Section 29, Harrison Township, same county.

In Coshocton County, Preston Oil Co.'s No. 5-1,551 E. R. VanWinkle farm, Section 13, Perry Township, is drilling.

INDIANA FIELDS

Three completions were reported during the past week from the Indiana fields, with one producer and two dry holes. They were Yeager and others' test on the John Hunt farm, Section 9, Fairbanks Township, Sullivan County, produced 25 bbls. initial. In Greene County, near Lyons, A. R. Morris and others' No. 2 on the H. H. Brown farm, Section 9, Washington Township, was a dry hole at 1,850 feet.

In Knox County, O. A. Thayer and others' No. 3 on the Eliza C. Hall farm, in the SW NE Section 14, Busseron Township, was dry at 900 feet.

ILLINOIS FIELD

Only one completion was reported from the Illinois Field, Leon Stewart and others' No. 7 Fred Knecht farm, Section 32, Parker Township, Clark County, which produced but 2 bbls. C. Hartman and others are shut down on the J. F. Boughman farm, SW Section 20, same township.

KENTUCKY FIELD

Cumberland Petroleum Co.'s No. 2 Sidney Lancaster farm, in the Roberts Pool, Ohio County, Kentucky, produced 100 bbls. initially, and W. E. Hupp and others' No. 4 J. W. O'Dell farm had an initial of 95 bbls.

In Hancock County, Joseph B. Mayer's No. 1 Jess Stewart farm, in the Mathews Pool, started at 75 bbls.

Ben Ruble is drilling a test on the Charles Willoughby farm, in the Mount Ariel area of Allen County, in the vicinity of Scottsville.

Gulf Coast Fields

(Continued from Page 61)

About 12 miles to the northwest, Edwards Drilling Co.'s No. 1 Daigle, in Section 24-7s-1e, was coring shale 7,074 feet.

At Roanoke in Jefferson Davis Parish, Shell Petroleum Corp.'s No. 1 Jernigan, in Section 12-9s-4w, was drilling sandy shale 7,352 feet. Humble Oil & Refining Co.'s No. 3 Devilbiss, about three-fourths of a mile southwest of Shell's discovery, was drilling hard shale 6,670 feet. Humble's No. 1 Martin Kratzer, a half mile southwest of the discovery, was drilling sand and shale 2,681 feet.

On the southern part of the structure of the old Welch Dome in Jefferson Davis Parish, Tide Water Oil Co.'s No. 1 Mrs. A. Bourgeois, bottomed hole 6,107 feet in the Vicksburg and has plugged back to 5,100 feet. Operators will whipstock and test the sand from 5,292-5,325 feet which showed up for a good oil sand on a Schlumberger test. On a drill stem test from 5,270 feet through 4-inch drill pipe and one-fourth-inch choke open 5 minutes it showed 150 feet of good clean 29 gravity oil with 60 feet of salt water and 40 feet of sand.

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Drought in Shreveport Area Reduces New Wells To Eight; Many Drilling Wells Are Shut Down

By J. R. CRUMPTON
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., July 30.—The continued drought in this Louisiana-Arkansas - Mississippi area has had much to do with the decreased drilling activity, numerous wells having been shut down during the past two weeks for lack of water. This is particularly true in the North Louisiana district, both in proven fields and wildcat territory.

While wildcatting has been on the increase, the Converse and Zwolle Fields in Sabine Parish have shown the most abrupt declines in active wells during the past two months. This is not entirely due to lack of drilling facilities. The shallow Converse Field, which produces from the chalk from 1,900-2,000 feet and is centered around the town of Converse, seems to have reached its territorial limits as far as this particular producing horizon is concerned. The Zwolle Field, which covers a wide area from 1½ to 4 miles in width and in a half moon shape from west to east of about 30 miles in length, is just about drilled up within its present proven boundaries. The latter field has always been more or less erratic, depending upon a break in the chalk or crevice from 2,400 to 2,700 feet to produce its oil. With the passing of peak production in these two most active fields in the North Louisiana district, efforts have been renewed to find one or more new fields, and a number of wildcat wells, recently drilled or now drilling, are trying to find an underlying sand in the vicinity of the Zwolle and Converse areas from which the present production in the chalk rock has its original source.

Deep Sand Disappointing

All of the tests so far drilled in the Zwolle-Converse area for this deeper sand have either been failures or with only small showings of oil and gas. R. L. Gay, Trustee's No. 2 Long Bell Lumber Co., Section 10-8-13, started more than two years ago, and completed in June of this year, was drilled to a total depth of 7,155 feet and had its best showing around the 4,700 foot level in lime of the upper Trinity. At the present time, two tests are drilling for a deeper, and below the chalk in the vicinity of the Converse Field. The Calatex Oil & Gas Co.'s No. 1 Whitney Corp., Section 4-9-13, made a drill stem test with a show of gas from 3,082-3,171 feet and is arranging to make another test from 3,210-3,310 feet where another show has been encountered. About 1½ miles north of shallow production in the Converse Field, George L. Pace's No. 2 De Soto Corp., Section 27-10-13, developed a dry drillstem test from 3,049-79 feet and is coring ahead.

Eight Completions

The last week's results reflected the retarded drilling with only eight completions, all in the North Louisiana district. Of this number, five were wildcats, all dusters, and three were small pumping wells. In Sabine Parish, near the town of Peason, G. W. Longley's No. 1-A Peavy-Wilson, Section 16-5-9, failed to recover all of the stuck drill stem and the hole was junked at 4,203 feet. This well had been followed with interest, due to a reported showing in a test drilled in the immediate vicinity during the first of last year. In the De Soto Parish, Gaskill and others' No. 1 Jim Guy, Section 3-11-13, treated with acid at 1,735 feet in chalk but the well bailed dry and was abandoned at that depth. Although the operators may put a heavier rig on location for a deeper test, the Eastern Texas Production Co. has moved the major part of the rig off of its No. 1 Givens estate, Section 2-17-4, Lincoln Parish, and the well stands dry at 3,503 feet. Southeast of the town of Springhill in Webster Parish, M. J. Kissick, trustee's No. 1 O. M. Slack, Section 18-23-10, topped the chalk at 2,220 feet with the base at 2,565 feet, but failed to pick up the expected pay sand and was abandoned at 2,738 feet. A shallow test in Winn Parish failed to encounter a show reported in a test formerly drilled in that area. The Red River Refining Co.'s No. 1 Tremont Lumber Co., Section 35-11-1w, was dry an dabandoned at 1,611 feet.

Scattered New Oil Wells

Two of the small producers were in the Zwolle-Converse area, one in each, and the other was in the Hosston area of the old Caddo Field. The latter, Shore Line Oil Corp.'s No. 1 S. P. Harrell, Section 21-21-16, is a 4-bbl. pumper from 1,034 feet. In the Zwolle Field, Pelican Natural Gas Co.'s No. 13 Sabine Lumber Co., Section 12-7-12, is pumping 110 bbls. from 2,611 feet, and in Converse, J. F. Anderson's No. 1 Burkett, Section 10-9-13, is rated from 2 to 10 bbls. from 1,993 feet.

New Locations

Only five new locations were staked in the North Louisiana district during the past week and all of them were in proven or semi-proven territory. Two wildcat wells of interest were experiencing drilling difficulties or salt water troubles along with a good show of oil and gas. The Producers Oil & Gas Co.'s No. 1 W. H. Werner, Section 7-17-11, 1½ miles northeast of the Sligo gas field, Bossier Parish, attempted to make a drill stem test after a gas blowout at 3,970 feet and the drill stem is stuck with the testing tool at bottom at a total depth of 3,984 feet. In attempting to pull the stuck drill stem, the derrick was pulled in and the test will be shut down for several days pending repairs. On the southwestern edge of production of the old Grand Bayou Field, Red River Parish, W. K. Williams' No. 1 De Moss estate, Section 33-13-11, drilled plug at 2,460 feet and tested with the bottom of the hole at 2,468 feet. The bailing developed an initial flow of gas of approximately 2,000,000 feet, a good quantity of oil, and considerable salt water. The operator cut a core of 4 feet of likely looking oil sand before setting casing, and it is not known at this writing whether the salt water is coming from the pay horizon or from a leaky casing seat.

For the first time since oil was produced in this state, dating back about 25 years, oil and gas operators will be required to pay a fee for drilling a well. House bill No. 194, passed and signed by the governor, despite opposition by a number of operators, will require a deposit of $50 for each well drilled. This fee, however, will be returned to the operator providing the well is a producer. The funds from this source will go toward making an extensive geophysical and geological survey of the entire state. the records and results of which will be accessible to any operator for future explorations. The research work and carrying ou the provisions of the act will be under the supervision of the commissioner of conservation, minerals division, and covers explorations for sulphur and other minerals as well as oil and gas. The minerals division of the state conservation department is located in Shreveport with branch offices in Monroe and New Orleans.

In the Arkansas Fields

An encouraging report for further wildcatting in southwest Arkansas was the announcement that a group of operators, interested in that area, had formed the Bloomburg Oil Corp. and will immediately begin a second test in the vicinity of E. L. Young, trustee's No. 1 Patterson, Section 5-19-28, a test which a few months ago cored a likely looking oil sand, but was junked on testing because of collapsed casing. The derrick will be skidded a short distance northeast from the original test, and the operators plan to make a careful core test of all the formations down to the Woodbine from which the former sand was cored.

In Lafayette County, west of the town of Lewisville, Earl F. Fox' No. 1 Coleman Bros., Section 36-16-25, topped the Nacatoch at 1,560 feet, topped the chalk at 1,679 feet and is drilling ahead for the Blossom, the sand from which pay is expected in this area. Northeast of the Fox test, Benedum & Trees' No. 1 Bodcaw Lumber Co., Section 19-16-23, is moving in rig. A few miles south and east of the Bloomburg test in Miller County, W. F. Lacey's No. 1 Gibson, Section 30-19-27, is shut down in lime at 3,808 feet after failing to get any show in the Woodbine.

This district failed to show a completion during the past week, but a number of wells in the Miller County, Urbana and Stephens Fields are on the pay sand and waiting for standard rig to pump.

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

AVOYELLES PARISH

Haas & Stokes' No. 1 Lindstrum Land Co., 690 ft. S, 980 ft. E, NW cor. Sec. 34-1n-6e. Set 12-in. 40 ft.

BOSSIER PARISH

Bossier O. & G. Co.'s No. 1 Sherrill, 300 ft. S and W, NE cor. Sec. 13-9-13. S.D.; W.O. 2,261 ft.

Dickinson & Pearce's No. 1 Taylor, 160 ft. S and W, NE SW NE Sec. 16-19-11. Drlg. 45 ft.

Howard & Baird's No. 1 Gold, 150 ft. S and E, NW cor. Sec. 36-20-13. Coring 1,119 ft.

McKinney & Stewart's No. 1 Nattin, 470 ft. W, 620 ft. S, NE cor. Sec. 22-22-14. S.D. 2,973 ft.

CADDO PARISH

Ark.-La.-Tex. O. & G. Co.'s No. 1 Simon, 330 ft. N and E, SW cor. Sec. 15-20-15. Tested S.W. 1,560 ft.

W. T. Bell et al's No. 1 Bostick, 1,320 ft. E, 660 ft. N, SW cor. Sec. 13-22-16. S.D. for water, 2,540 ft.

Burkett O. & G. Co.'s No. 1 Lindholm, 400 ft. S and E, NW cor. NE SE Sec. 15-17-14. S.D. 1,046 ft.; repairing rig.

Capitol O. & G. Co.'s No. 1 Noel Est., 300 ft. S and E, NW cor. NE Sec. 12-20-16. S.D. 450 ft.

A. D. King, tr.'s No. 1 Roach, 641 ft. E, 375 ft. N, SW cor. SE Sec. 4-14-16. S.D. 2,128 ft.

Simplex Oil Co.'s No. 9 Youree-Randolph, 660 ft. S and W, NE cor. SE Sec. 13-20-15. P.B., set 6-in. 1,778 ft.

Simplex Oil Co.'s No. 1 Glassell, 330 ft. S and E NW cor. Sec. 23-20-15. Rigging up.

CALDWELL PARISH

Terrell & Price's No. 1 La. Central Lbr. Co., 300 ft. N, 300 ft. W, SE cor. NW NE Sec. 15-11-3e. Drlg. 2,995 ft.

DE SOTO PARISH

L. H. Alderson's No. 1 Peek, SE cor. NW NE Sec. 25-11-13. S.D. for wtr. 3,030 ft.

Dempsey & Manziel's No. 1 Thigpen, 375 ft. S, 350 ft. W, NE cor. SW NE Sec. 33-13-13. S.D. for wtr. 1,605 ft.

Gaskill et al's No. 3 Guy, 370 ft. S and W, NE cor. NW SE Sec. 3-11-13. Dry and abnd. 1,735 ft.

Hester et al's No. 1 Alston, 330 ft. S and W of center of Sec. 11-11-16. Rigging up.

Texas Co.'s No. 13-A Wemple, Sec. 1-12-12. Fishing for D.S. 3,017 ft.

J. S. Tuffree's No. 1 McGill, 450 ft. N, 150 ft. W, SE cor. SW SE Sec. 1-10-13. S.D. 2,125 ft.

LINCOLN PARISH

Eastern Texas Prod. Co.'s No. 1 Givens Est., SW cor. NE Sec. 2-17-4. Dry and abnd. 3,503 ft.

MOREHOUSE PARISH

Grecian Bend Gas Co.'s No. 1 Patton, 759 ft. E, 177 ft. S NW cor. NE Sec. 11-20-4e. Set 6-in. 2,115 ft.

Zeiger & Bacon's No. 1 Crossett, 400 ft. N, 300 ft. W, SE cor. Sec. 41-23-6e. T.A. 3,111 ft.

NATCHITOCHES PARISH

Jack Let's No. 1 Brown Lbr. Co., 400 ft. S, 300 ft. E, NW cor. NE SW Sec. 27-9-13. Set 10-in. 21 ft.

Missouri Drlg. Co.'s No. 1 Brown Lbr. Co., 400 ft. N, 330 ft. W, SE cor. Sec. 5-10-10. Reaming to bottom 1,033 ft.

Plummer & McDaniel's No. 1 Walmsley, SE SW Sec. 45-10n-8w. Drlg. 5,200 ft.

Roy A. Raines et al's No. 1 Raines est., 330 ft. N and E, SW cor. Sec. 28-9-10. W.O. casing 2,260 ft.

J. B. Storey's No. 1 W. W. Page est., NE cor. SE NW Sec. 18-8-9. S.D. 1,544 ft.

OUACHITA PARISH

Carbons Consolidated's No. 8 Guthrie, 1,550 ft. N 250 ft. W of SE cor. Sec. 22 in Sec. 50-20-4e. Rigging up.

Carbons Consolidated's No. 4 Cole, 662 ft. S, 1,969 ft. W, NE cor. Sec. 36-20-4e. Tested S.W. 2,304 ft.

United Carbon Co.'s No. 3 Cole, 1,320 ft. N, 561 ft. E, SW cor. Sec. 25-20-4e. Set 6-in. 2,134 ft.

RED RIVER PARISH

Louis L. Glass' No. 1 Dickson, 400 ft. S and W, NE cor. NW SE Sec. 32-12-8. S.D. 1,004 ft.

Kincaid & Kelly's No. 1 Ober, 315 ft. N, 257 ft. W, SE cor. NW SE Sec. 5-14-10. Drlg. 2,545 ft.

A. D. Mytiler's No. 1 La. Delta Pecan Co., 1,700 ft. N, 160 ft. E, SW cor. Sec. 27-13-11. S.D. 857 ft.

Oynett et al's No. 1 Thomas, 330 ft. S and E, C Sec. 34-12-8. S.D. for fuel 740 ft.

W. K. Williams' No. 1 DeMoss Est., 900 ft. S, 330 ft. W, NE cor. Sec. 33-13-11. Drlg. plug 2,430 ft.

SABINE PARISH

J. F. Anderson's No. 1 Burkett, 135 ft. N, 655 ft. E, SW cor. NW Sec. 10-9-13. Comp. pumping 5 bbls. 1,993 ft.

(Continued on Page 83)

J. E. BRISTOW DIES

SAN ANGELO, Tex., July 30.—Dr. J. E. Bristow, 64, San Angelo oil and mining operator and former practicing attorney and physician in Oklahoma, died Thursday night at Santa Barbara, Cal.

Dr. Bristow's capture by bandits in the Mexican state of Nagarit in March, 1930, and his release more than a month later upon payment of a ransom of 3,000 pesos, was a stirring incident in an adventurous life.

TANKER FIRE

TORONTO, Ont., July 28. — The oil tanker Enarco, recently purchased by the John E. Russell Construction Co. for refitting, was badly damaged on July 23 by fire and explosion. Three firemen were killed and 10 injured when trapped in the hold by the second explosion.

Plan New Test in Old Boulder Field in Colorado; Water Shortage Delaying Lea County Work

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., July 30.—All pools in Lea County, New Mexico, with one exception, show an increase in allowable for the last half of July. The The Shell Petroleum Corp.'s No. 3 Berryy, in the Hobbs Pool, increased from 8,184 to 11,773 bbls. after being treated with acid. The Continental Oil Co.'s No. 1 Grimes, gauged 3,244 bbls. and 14,900,000 feet of gas, and will be acideized before completing. One new location was made in the Eunice area. Shortage of drilling water for the rotaries is delaying operations in Lea County. A wildcat is spudding in the Carlsbad district in Eddy County, one well was abandoned in the Compton Pool, and Flynn, Welch and Yates' No. 68 State, in the Artesia Pool, is standing full of oil.

The old Boulder Field in Colorado is to have a new test in Leslie R. Steele's No. 1 Cole, which is spudding. Ramsey's No. 1 Scriven, in Weld County, may be deepened to the Lakota. The Texas Co.'s No. 5 Carstarphen, in Tow Creek, looks like a dry hole.

Two oil wells, one gas well and one dry hole were completed in the Cut Bank Field in Montana. The best completion, southeast of the town of Cut Bank, swabbed 240 bbls. in 24 hours. One well was abandoned in Carbon County, a small gas well was completed in the Bowdoin Field in Phillips County, and a 60-bbl. well after acidizing, was completed in the Kevin-Sunburst Field. Two new locations were reported in Phillips County and one in Toole County.

In Wyoming, Paul Stock is completing a producer in the Oregon Basin Field, estimated at 300 bbls. a day.

The Ramsey test in southern Utah apparently has overcome fishing troubles and is ready to make new hole.

The Ramsey test

NEW MEXICO

Lea County

Proration schedules for the Lea County oil pools for the last half of July generally show increases in the allowable outlet as compared with the first half of the month, the only exception being the North Lea Extension, which remains unchanged. The Hobbs Pool potential as of July 16 is 1,953,189 bbls. daily, an increase of 57,905 bbls. daily. There are 193 units on production, of which one is given a special allowance. The allowable outlet for the last half of July is 36,704 bbls. daily, as against 34,981 bbls. daily for the first half.

The Eunice allowable was increased from 2,824 to 3,110 bbls. daily and 17 units, one more than in the first half, are on production. All wells are permitted to produce 191 bbls. daily each.

The Lea Pool allowable was raised from 1,685 to 1,743 bbls. daily from 10 units, two of which produce at capacity and the other eight are limited to 191 bbls. daily each.

Six units in the Cooper-Lynn area are allowed a total of 479 bbls. daily, the top being 191 bbls. per well.

Jal was increased from 3,088 to 3,108 bbls. daily from 27 units, of which 10 units are allowed the top of 191 bbls. each.

The Shell Petroleum Corp.'s No. 3 Berry, NE cor. SE Section 31-18-38, which last week was reported a completion at 4,225 feet with an initial production of 8,184 bbls. on a company gauge, was treated with 1,000 gallons of acid and on a gauge for proration purposes after treatment made 6,039 bbls. of oil and 4,817,000 feet of gas through the tubing and 11,773 bbls. and 10,234,000 feet open flow. The top of the Terry is at 4,032 feet. It went 35 feet deeper than its offset on the north and its initial production was more than double.

Seven miles to the northwest of the wells near the C Section 24-18-37, the nearest Hobbs producers, Fisher & Lowrie drilled their No. 1 State, NE cor. NW Section 11-18-36, in 1929. Geological maps of the Hobbs Pool do not generally indicate the closure in that direction. The Fisher & Lowrie well was completed on July 31, 1930, at 5,514 feet for 50 bbls. first 24 hours from sand at 5,142-54 feet. About a year ago it was opened for a six-day test and averaged 22½ bbls. daily. Subsequently it was plugged and abandoned. The facts are interesting in connection with the extension of the pool half a mile in that direction a few months ago without finding the edge.

The Continental Oil Co.'s No. 1 Grimes, SW cor. SE Section 28-18-38, was completed at 4,217 feet in lime and gauged 1,999 bbls. and 9,862,000 feet through the tubing at 4,215 feet. Through the casing it made 3,244 bbls. and 14,900,000 feet. It is standing treated with 1,000 gallons of acid.

The Repollo Oil Co.'s No. 3 Grimes, SW NW NW Section 28-18-38, reported a completion for 551 bbls. initial last week, is standing treated. The Stanolind Oil & Gas Co.'s No. 8 Turner, C NW NW Section 34-18-38, is shut down at 886 feet in the red beds for water. It began spudding July 12 and cemented the 15⅝-inch at 225 feet with 90 sacks. Water shortage is causing a considerable delay in rotary operations in the entire southeastern area. The Gypsy Oil Co.'s No. 3 Graham, SW cor. NE Section 24-18-37, is waiting on cement after setting the 13⅜-inch at 240 feet with 200 sacks. The Gypsy Oil Co.'s No. 3 East Grimes, NW cor. NE Section 33-18-38, is waiting on cement after setting 9⅝-inch at 2,746 feet with 300 sacks. The Shell Petroleum Corp.'s No. 4 Grimes, SE cor. SW Section 28-18-38, is rigging up rotary.

Eunice Area

A new location was released in the Continental Oil Co.'s No. 8-B No. 1 A. E. Meyers, C SE NW Section 8-21-36. This is an outline well, a west offset to the Tidal Oil Co.'s No. 1 State, and a north offset to the Continental's No. 8-A Meyers.

The Tidewater Oil Co.'s No. 2 State-Foster, C SE NE Section 8-21-36, is rigging up rotary, and the Repollo Oil Co.'s No. 1 State, NE NW NE Section 19-21-36, is fishing for drill tem at 3,850 feet. The Gypsy Oil Co.'s No. 1 Bell-Ramsey, C NW SW Section 9-21-36, is rigging up rotary. The Continental Oil Co.'s No. C-20 No. 1 State, C NW NW Section 20-21-36, is drilling at 3,600 feet in brown lime and its No. C-20 No. 2 State, C SW NW Section 20-21-36, cemented the 9⅝-inch at 1,435 feet with 300 sacks and is drilling ahead at 1,560 feet in salt. The Ohio Oil Co.'s No. 2 State-McDonald, C NW SW Section 14-22-36, is drilling at 230 feet in the red beds.

Jal Area

The Continental Oil Co.'s No. 13-A No. 1 Sholes, C SW SE Section 13-25-36, is bottomed in lime at 3,251 feet and fishing for drill collar and bit at 3,235 feet. This is the third lost, none of which was recovered. Drilling by was in progress when bit was lost. The Repollo Oil Co.'s No. 2-A Stephens, NW cor. NE Section 13-25-36, is rigging up rotary.

Cooper Area.

The Stanolind Oil & Gas Co.'s No. 1 Meyers, SE cor. NE Section 22-24-36, is shut down for water at 693 feet, in anhydrite. The Phillips Petroleum Co.'s No. 1 Woolworth, NW cor. SW Section 23-24-36, is drilling at 2,778 feet in anhydrite, and its No. 2 Woolworth, NW NE SW Section 23-24-36, cemented the 12½-inch at 300 feet with 300 sacks and is waiting. Same company's No. 3 Woolworth, SW cor. NW Section 23-24-36, is rigged up and ready to spud, and its No. 4 Woolworth, C SW SW Section 23-24-36, is rigging up rotary. The General Crude Oil Co.'s No. 2 Meyers, C SE SE Section 22-24-36, is waiting at 258 feet, total depth, after cementing the 12½-inch at 225 feet with 225 sacks. It began spudding July 13.

North Lea

The Texas Co.'s No. 1 Lea, SW cor. NW Section 14-20-34, was plugged back from 3,688 feet to 3,600 feet and is waiting. Prior to plugging back it averaged 123 bbls. a day on a swabbing test with one bailer of water per hour.

Eddy County

The Continental Supply Co. last week sold a complete new rotary drilling outfit to the Oil Well Drilling Co. for use in the Hobbs Pool. The significance of the deal, says the Artesia Advocate, is that it is the first outfit of this kind sold in that area the past four years and means that the slack has been taken up. When the drilling slump began four years ago, a number of rotaries were put in storage. The resumption of operations indicates that these are all in use.

The Artesia Pipe Line Co. began running crude from the Maljamar district to the plant of the Malco Refining Co. on July 14 through its new 42-mile 4-inch welded line. The line was laid by the Fredell Construction Co., of Denver. It connects with the gathering system connecting up the Grayburg Oil Co., Repollo Oil Co., Danciger and Dexter-Arnold producers.

A wildcat getting under way in the Carlsbad district is the A. & M. Petroleum Co.'s No. 1 State, Section 15-21-27, 3 miles southeast of Carlsbad, which is spudding at 125 feet in red rock.

Welch & Compton's No. 1-A Smith, NE cor. SW Section 8-18-27, on the southwestern side of the Compton Pool, was dry and abandoned at 1,225 feet, in lime. It encountered neither oil, gas nor water.

Flynn, Welch & Yates' No. 68 State, NW SW NW Section 27-18-28, on the east side of the south pool in the Artesia Field, has a hole full of oil at 2,795 feet from the lime at 2,783-93 feet. It will acidize before completing. Same firm's No. 1 Vickers, C SE SW Section 34-20-28, is drilling at 630 feet in lime, with the 12½-inch mudded at 135 feet and the 10-inch at 222 feet. Tignor, Etz & Keyes' No. 1-A Keyes, C SE SW Section 10-17-28, a wildcat 4 miles to the north of the Artesia Pool, is drilling at 230 feet in gypsum, with the 12½-inch mudded at 60 feet and the 10-inch at 147 feet.

The Pecos Valley Drilling Co.'s No. 1 McIntyre, NW NW Section 27-23-25, Dark Canon district, western Eddy County is resuming at 2,825 feet, total depth. It is reaming the 8¼-inch at 2,815 feet to set at 2,820 feet.

The Getty Oil Co.'s No. 2 Cook & Ironsides, C SW NW Section 8-20-29, Twin Mounds district, 3 miles west of the Getty Pool, total depth, 1,598 feet, shot sand at 1,105-20 feet with 60 quarts. It swabbed 190 bbls. of fluid, of which 22 bbls. were oil. It will underream the 8¼-inch to 1,095 feet.

Guess & McIntosh's No. 1 State, NW cor. Section 8-26-28, Red Bluff district, is drilling at 945 feet in anhydrite.

San Miguel County

The Cabra Springs Oil & Gas Co.'s No. 1 Cabra Springs Ranch, SW NE NE cor. Section 22-12n-22, Pino Mesa district, is shut down at 3,561 feet with the 6⅝-inch hanging 50 feet off bottom. At present depth it has a second show of oil and gas in larger volume than the first show at around 3,100 feet. The hole from 3,537 feet to bottom is in dark blue and dark maroon shale with a very small sand content, and it is believed to be near the top of the Magdalena section.

Torrance County

A new location is reported to have been made by Bruce Frazier in his No. 1 Frazier, SE Section 12-2-31. Exact footage of well is not available.

Santa Fe County

C. C. Owen, and others' No. Cantwell, NW cor. Section 5-10n-9e, near Stanley, is in a hard lime at 555 feet, where it is believed to have found a good casing point for the 10-inch, which it is carrying. Elmer Fisher's No. 1 Hill, Section 6-10n-7e, Barton district, is drilling at 1,915 feet in sand with a show of oil at the top at 1,905 feet.

San Juan County

Nick Spatter's No. 1, C NE SW Section 32-31-11w, Aztec district, is drilling at 780 feet and had a show of oil at 505 feet and water at 630 feet. Objective is expected at 860 to 900 feet. Finley & Johnson's No. 1, NE NW Section 22-29-11w, formerly carried as Frank Weber, is rigging up Armstrong machine.

COLORADO

Boulder County

The Boulder Field, one of the earlier developments in Colorado's oil history which gave the state its biggest oil boom around 1902, is to have another test in Leslie R. Steele's No. 1 Cass Cole, NW NE Section 33-1n-70, which began spudding on July 15 in a 12½-inch hole to go to the Hygiene sand at 3,400 feet. Forty or 50 wells were drilled in the field in the early nineties and a fair proportion of that number were producers. A random examination of some old logs shows one well that averaged 96 bbls. daily for 45 months, another that averaged 21 bbls. daily for 51 months and some of the best wells exceeding these. Seven of these old wells are still making around 3 bbls. daily on an average. The discovery of the field was followed by a period of intense stock speculation in Denver and it is said that many of the wells were ruined and the sand damaged

by the excessive shots given the wells in order to give them a spectacular appearance for stock-selling purposes. In any event the field gradually went down. Since then some of the major companies have drilled a few tests around the old district in hopes of finding deeper production. One of these was drilled by the Repollo Oil Co. in its No. Deines, NE cor. NW Section 33-1n-70, south of the old district, in 1926. This well had gas at 4,730 feet and the hole was so badly junked it could not be drilled to the objective Dakota sand. It was plugged back to the Hygiene sand at 3,380 feet, shot with 2 quarts to crack the casing, and made 4 bbls. daily on the pump. Subsequently the well was sold to Leslie R. Steele, who is still producing it. Recently he cleaned out the well and it began pumping 10 bbls. daily. The Repollo drilled another test to the southwest of No. 1 Deines, and went to the Dakota without encountering anything of value. The new test is located a few hundred feet to the southeast of No. 1 Deines and on a direct line with that well and the old Buffalo gas well to the northwest (a mile east of Boulder) which supplied the town of Boulder with natural gas for 11 years and was still making gas when the casing rusted and the hole caved in. The old gas well, the No. 1 Denies and the new test are all on a straight line running from the northwest to the southeast in the order named and apparently Steele is drilling No. 1 Cole on the theory that the trend is in that direction and that it was missed by the deep well drilled to the Dakota southwest of No. 1 Deines.

Weld County

Recent reports that the Ramsey Petroleum Corp.'s No. 1 Scriven, C NW Section 22-7n-59, Buckingham district, was abandoned were premature as it was left in condition after deepening from the Muddy to the Dakota to continue on to the Lakota if such a course is decided upon. No decision has as yet been made as to whether it will be carried on down. It was deepened from the base of the Muddy at 6,818 feet to the Dakota at 6,891 feet, going only 6 inches into the Dakota when it began to fill with water. The Dakota was then cemented off and the operation is now shut down for orders.

Larimer County

Eastman & Deininger's No. 1 Cement, NE SW NW Section 30-5n-69, Loveland district, has resumed at 520 feet and is expecting the second sand in the Dakota series within the next 40 to 50 feet. This well is south of a fault which separates it from several other tests drilled in the district and it was started with the intentions of going only to the Muddy at around 400 feet. It found showings of oil and gas in the Muddy, but these were not commercial. However, the gas increased towards the bottom of the hole which resulted in the decision to go on to the second sand. The well is running 20 feet higher than a nearby well which showed 18 inches of saturation in the top of the second sand.

Jackson County

The Continental Oil Co.'s No. 3 Hoye, NW cor. NE Section 34-9n-78, South McCallum, is bottomed at 520 feet and is reaming with 19-inch bit at 225 feet to correct a deviation from vertical before starting on the long drive to the Dakota. The Colorado Oil & Refining Co.'s No. 1 North Park Coal Co., NW NW Section 18-9n-78, North McCallum, is shut down at 1,750 feet.

Grande County

The Colorado Oil Refining Co.'s No. 1 Linke, NE SW SW Section 13-1n-77, Granby district, is drilling at 850 feet in shale and continues to show some gas.

Routt County

The Texas Co.'s No. 5 Carstarphen, NW NE NW Section 5-6n-86, Tow Creek, is bottomed at 3,943 feet and does not look very promising. It was shot once and will be shot again. It offsets two producers. The same company's No. 1 Sampson, SE NE SE Section 2-1s-85, King Mountain, is drilling at 832 feet. It had sulphur water at 638 feet.

Moffat County

The Mountain Fuel Supply Co.'s No. 4-B Florence Wilson, C NE NW Section 23-12n-100, Hiawatha Dome, is drilling at 2,631 feet, and The Texas Co.'s No. 1 Van Schaick, SW cor. Section 19-12-100, cemented the 10¾-inch at 1,577 feet. It had a show of gas in sand at 1,527-40 feet.

Prowers County

The Trojan Oil & Gas Co.'s No. 1 Lotus Oil, NE NE Section 15-23-46, Lamar district, is shut down at 3,338 feet.

MONTANA

Glacier County

Two oil wells, one gas well and one dry hole and one new location were reported in the Cut Bank Field.

One of the best and most important completions was the Montana Power Gas Co.'s No. 1 Fuller, 220 feet north of C SE Section 17-33-5w, 2 miles southeast of the town of Cut Bank and a mile north of the same company's No. 1 Neill. It swabbed 240 bbls. first 24 hours from a total depth of 2,969 feet. The base of the pay was at 9,965 feet. No. 1 Neill was completed in May for 115 bbls. first day on the swab. It proved the area between The Texas Co.'s No. 1 State, far to the southeast, and the developed area to be continuous oil territory. The completion of No. 1 Fuller not only confirms that opinion, but indicates that some good wells are to be developed in what heretofore was classed as South Cut Bank.

The Texas Co.'s No. 1 Consolidated Gas Lease, 105 feet W of C Section 15-35-6w, was completed as a gas well at a total depth of 2,809 feet and was shut in after gauging 5,000,000 feet in 24 hours. It is to the east of the oil development and in the proven gas area.

The other completions was the Alberta-Pacific Consolidated Oil Co.'s No. 4 Matson, W SW NW Section 14-34-6w, an inside location. It was completed at 2,946 feet in the pay at 2,915-36 feet and swabbed 128 bbls. the first 24 hours.

The dry hole was the Producers Development Syndicate's No. 1 Eniarson, in the South Cut Bank area, 3½ miles southeast of The Texas Co.'s No. 1 State, the discovery well in that district and the nearest producer. It topped the Madison at 2,785 feet and encountered big sulphur water. It will be plugged and abandoned.

The new operation is the Montana Power Gas Co.'s No. 1 Pioneer Lumber Co. Unit No. 1, SE cor. Section 21-35-5w, a location. It is in the gas area and is on a block of leases which have been unilitized.

An important test which is nearing completion is Annand & Hutchings' No. 1 Bonnett, NW cor. SE Section 10-32-5w, in the South Cut Bank district, a mile to the northeast of The Texas Co.'s discovery in the last named No. 1 State. It is bottomed at 2,917 feet and is trying to run the 6¼-inch after drilling by collapsed pipe. It had an oil show at 2,912-15 feet.

Annand & Hutchings' No. 1 Federal Land Bank, NW cor. SW Section 11-34-6w, is drilling at 2,110 feet.

A. B. Cobb's No. 3 Walberger, NE SW SE Section 35-36-6w, is drilling at 2,020 feet.

The Dakota-Montana Oil Co.'s No. 1 Winkler, C NW NW Section 26-35-6w, is drilling at 1,850 feet.

The Grant Oil Co.'s No. 2 Yunck, C SW SW Section 14-34-6w, is drilling at 540 feet.

The Indian Oil Co.'s No. 1 Fee, C SE SE Section 4-34-6w, is drilling at 2,870 feet.

Lawler & Hoer's No. 1 Harland, C SW SW Section 5-33-5w, is drilling at 350 feet.

The Montana Headlight Oil Co.'s No. 2-A Williams, C NE NE Section 11-34-6w, topped the Colorado at 440 feet and is drilling at 1,675 feet, and its No. 2 Yunck, C NW SW Section 1-34-6w, had a show of gas at 2,718 feet, set the 8¼-inch at that depth and is bottomed at 2,724 feet. The Montana Power Gas Co.'s No. 1 Hawkins, C SW Section 17-33-5w, is drilling at 2,680 feet, and its No. 1 Whetstone, C SE NE Section 7-33-5w, is drilling at 2,440 feet.

The P-M-K Petroleum Co.'s No. 1 Mattson, C NW NW Section 14-34-6w, is drilling at 1,325 feet.

The Santa Rita Oil & Gas Co.'s No. 3 Whetsone, C NE NE Section 27-35-6w, is drilling at 2,770 feet, and its No. 4 Whetstone, C Lot 2, Section 22-35-6w, is rigging up.

R. C. Tarrant's No. 2 Getty, NW cor. SE Section 2-34-6w, is drilling at 1,770 feet, and his No. 1 State, C SE SE Section 36-34-6w, a new operation, has rig on location. Another first report is The Texas Co.'s No. 1-M-313 Hessler, C NE NW Section 20-33-5w, which is moving in materials. The Texas Co.'s No. 4 Hinkle, C SE NE Section 2-34-6w, is waiting on cement with the 7-inch at 2,760 feet, and its No. 2 Kearns, W NW NW Section 23-35-6w, is waiting on spudder at 2,814 feet to drill in. Same company's No. 1 Mabel Morrison M-358, Lot 5, Section 22-35-6w, is drilling at 1,975 feet, and its No. 4 Purdy, SW SW Section 35-35-6w, is drilling at 2,929 feet.

Big Horn County

The California Independent Oil Co.'s No. 3-8, SW NW NE Section 34-6s-32, Soap Creek, had a show of oil in the Tensleep at 1,550-60 feet and is drilling at 1,600 feet. The Amsden is expected at 1,620 feet, where the 8¼-inch will be set.

Carbon County

The Minnesota-Flatwillow Petroleum Co.'s No. 1, SW cor. SE Section 1-6s-23, Blue Creek district, was dry and abandoned at 1,320 feet. It was drilled to 1,248 feet by the Corbett Royalty Co., at which depth it was taken over by the new interests. The Ohio Oil Co.'s No. 14 Maddox, C NW NW Section 10-7s-21, Dry Creek, is coring in the Frontier at 4,775 feet.

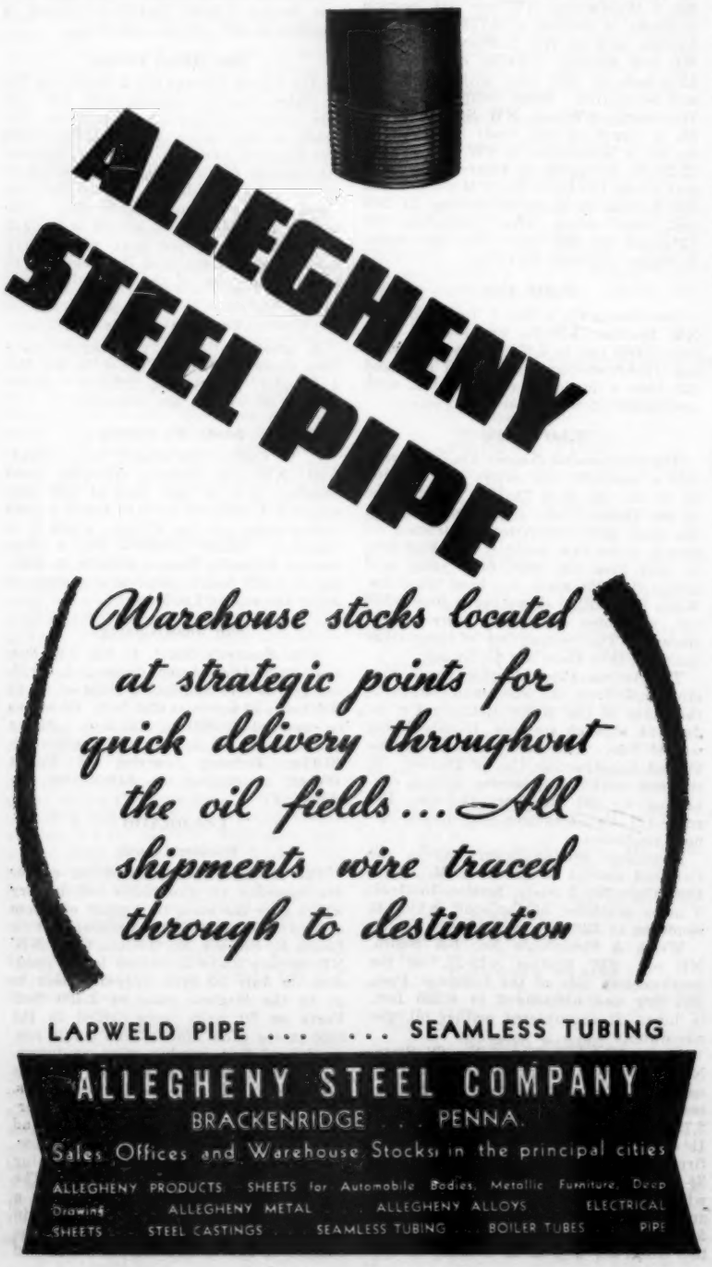
Phillips County

The Montana Utilities Co.'s No. 1 Styles, C NW NW Section 23-31-34, in the Bowdoin gas field, was completed as a gas well at 800 feet for 1,500,000 feet, and same company has rig on location for its No. 526 Federal Land Bank, C NW SW Section 23-31-34. Another new location is the town of Saco's No. 1, SE cor. Section 7-31-34.

Pondera County

The Barmac Oil Co.'s No. 1 Bruning, C SW SW Section 1-31-5w, in the Vallier

(Continued on Page 79)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TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the question is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Extraction of Petrolatum and Wax From Oil

How is wax obtained from petroleum? Is there a book dealing with the manufacture of wax and petrolatum?—J. S.

I do not know of a book devoted especially to petrolatum and wax. Petrolatum is a salve-like mass obtained during the process of separating wax from lubricating oil. When the wax distillate, also called the lubricating oil fraction, is separated from the crude oil with practically no cracking a large proportion of petrolatum, or amorphous wax, will be obtained. However, if the proper cracking takes place there will be a large yield of wax, having a crystalline structure, and a small quantity of the petrolatum, which is noncrystalline.

The essential principle of the method for separating the wax from the oil is that the fraction is cooled to a low temperature and then filtered through cloth in a filter press. The wax remains on the cloth and the petrolatum and oil pass through. The petrolatum is then obtained by settling from the oil held at a low temperature; this operation being known as cold settling.

Cold settling has been replaced in the modern refineries by the centrifugal process. This method requires that the oil shall be diluted with naphtha and the solution reduced to a temperature which may vary from about —10° F. to approximately —50° F. This cold mixture is run through a super centrifuge, which operating at high speed, above 16,000 r.p.m., makes the separation of wax and liquid oil on the same principle that cream is separated from milk. The naphtha is recovered from the naphtha solution by distillation. The wax is heated, sweated, to remove oil and petrolatum.

This is a very brief outline of the process; details may be found in Day's Handbook of the Petroleum Industry, 373, etc., Volume 2.

Chemistry of Sodium Hydroxide Solution in Sweetening

What is the purpose when caustic soda solution is used ahead of the doctor solution when sweetening light oils? The doctor solution contains excess soda so it seems the first treatment is not necessary.—M. S. P.

It is true that many light oils could be treated in the one contact with the alkaline doctor solution, sodium plumbite, but the reaction with some oils would be such that the good effects of the alkali would be obtained at an excessive cost because of the large loss of lead. A brief outline of the chemistry of the operation will explain what this means.

Caustic soda, sodium hydroxide (NaOH), is used in the sweetening of the petroleum light oils for several reasons. Some distillates contain free acid, which is neutralized by caustic soda. In most instances these distillates are contaminated with hydrogen sulphide, which can be entirely removed by a wash with a weak solution of caustic soda. Here the sodium of the caustic soda combines with the sulphur in the hydrogen sulphide to form sodium sulphide. In both instances soluble salts are formed that are easily washed away by passing the oil through water.

Frequently the product to be treated is a combination of raw gasoline made by direct distillation of a crude oil and a gasoline produced by the cracking of suitable stocks in the pressure stills. The pressure still product is known as pressure distillate, which is usually treated with sulphuric acid and then the acid-treated oil is distilled to obtain the gasoline as a distillate. A blend of the gasoline from the crude oil and the gasoline from the pressure distillate is then treated by what is known as the sweetening operation.

A petroleum product which has been acid-treated may contain sulphonic acids, esters, traces of sulphuric acid held in suspension, usually in an emulsified form, and sometimes acid salts. All of these are modified and neutralized by the action of caustic soda. Usually the resulting compound is soluble in water and therefore removed by the washing with water. An example of this is the saponification of the esters to the alcohols. The acid esters may be treated as

$$RO.HO.SO_2 + NaOH = ROH + NaO.HO.SO2$$

and the neutral ester as

$$(RO)_2SO_3 + 2NaOH = 2ROH + (NaO)_2.SO_3$$

Loss of lead, causing reduced effectiveness, will follow when the doctor solution (Na_2PbO_2) is applied to a distillate containing hydrogen sulphide (H_2S). This may be illustrated by:

$$Na_2PbO_2 + H_2S = PbS + NaOH$$

Also, in the presence of naphthenic compounds acid will be lost; a wash with caustic soda should be used before applying acid to oils containing these compounds because the alkali will remove them.

The use of the sodium plumbite solution is for the particular purpose of converting the mercaptans to the disulphides, which do not react with the doctor test solution and are less objectionable to have present in the finished product.

Stabilization of Crude Oil for Conservation of Gasoline

What articles have appeared in The Oil and Gas Journal on the stabilization of crude oil before running it in primary distillation units? What is the effect on Reid vapor pressure, octane number, and refinery loss when stabilizing? What are the factors which have prevented this from becoming an accepted practice in processing?—F. W. K.

Two articles on the stabilization of crude oil may be found in The Oil and Gas Journal, one appeared March 6, 1930, page 118, and the other in the issue of March 27, 1930, page 46. The first one describes the practice of the Anglo-Persian Oil Co. at the Abdon refinery on the Persian Gulf. The second article relates to the handling of crude oil by the Indian Territory Illuminating Oil Co. in the Oklahoma City Field of Oklahoma.

The Persian oil of 39 gravity is received under pressure containing 30 per cent straightrun gasoline, 3 per cent free natural gasoline and considerable natural gas.

The atmospheric temperatures are high; frequently the temperature in the shade is 120° F. and some temperatures of 175° are not uncommon. The oil when delivered to the refinery is nearly at 100° F. The evaporation loss and breathing loss for such oil would be high.

Approximately 2.5 per cent. of the oil for export, is removed by passing through exchangers and towers; the towers being held at 120° in summer and 140° in winter. The gasoline contained in the gas is recovered by a combination of the compression and absorption process.

The conditions at Oklahoma City are similar, except that the atmospheric temperatures are not so high. The crude oil from some wells is abnormally high, ranging from 46 to 52 gravity, and there is some casinghead or drip gasoline which may be mixed with the crude oil. The posted price tables for crude oil do not differentiate between oils above 40 gravity, all oils above 40 gravity receiving the price paid for 40 gravity oil. The object then is to remove enough light, or volatile, material to reduce the gravity to approximately 40 gravity.

The oil flows from the receiving tank through exchangers to fractionating towers, heated with steam coils set in the lower part, the oil being admitted about midway up the tower. The liquid product from the top of the tower is treated and then run to storage for marketing. The residue oil, drawn off from the bottom of the tower is cooled, run to storage and then to the pipe line.

It is clear that in both cases the oil is topped to avoid large losses. The oils are of exceptional quality, containing much more than the average quantity of gasoline. With the large production of crude oil in the United States during recent years it has not been necessary, nor advisabe, for the major purchasers to put large volumes of oil in storage where excessive losses are met with. The greater part of the crude oil now produced is not light enough to suffer large losses for the short periods, in many cases a matter of days, it must remain in storage before being refined.

Naturally Reid vapor pressure, octane number and refinery losses are reduced as to the oil received. The yield of gasoline of a selected quality for a stabilized crude oil of 40 gravity will usually be less than from an oil of the same gravity that is received from the field without having been heated.

When it is known that a light oil is to remain in storage for a long period, it is a good idea to stabilize it if the apparatus, storage and shipping facilities are available.

Bubble Tower for Reduced Scale Operation

I want to get a description of a bubble tower suitable for small scale refining, one that is so arranged that temperatures can easily be changed. Do you have anything on this?—R. K.

It appears that the apparatus designed for use of the U. S. Bureau of Mines and described in the references mentioned below should be satisfactory.

The bubble tower part of this unit is complete in that it is similar in construction principles to the large towers used in refineries and operates in the same manner.

The Bureau of Mines tower consists of stainless steel bubble plates separated by pyrex glass sections. The whole tower is supported on an evaporator. The glass sections are 2 inches outside diameter with ground ends to minimize leakage. The stainless steel plates between the glass sections are three-eighths inch thick and are grooved one-sixteenth inch deep on each side to receive the ground edges of the glass sections; gaskets are inserted between glass and steel to insure a vapor-tight joint. The plates extend one-half inch beyond the glass walls to provide for holes. Tie rods pass through these holes and bolt the assembled sections together into one unit and make the tower rigid. Each plate is drilled to provide an oil draw-off and an oil inlet. Down-flow tubes keep a one-half inch layer of condensate on each plate, causing the vapors to pass through at least one-fourth inch of oil (the slots in the caps are one-fourth inch high).

At the bottom of the tower is the evaporator into which the heated oil from the furnace is discharged, liberating vapors which pass up through the tower. This evaporator is 3 inches inside diameter and 7¾ inches high.

The tower is insulated by surrounding it with a brass jacket lined with one-fourth inch of sheet asbestos. Windows are cut out of the jacket on two opposite sides, and are closed with sheets of clear mica, thus keeping a dead air space between the tower and the windows and yet permitting observation of the action in the tower. The evaporator and hot-oil transfer line are insulated with asbestos fiber.

References: The Oil and Gas Journal, November 1, 1928, Page 120; R. P. Rue, "Some Effects of Fractionation on the Chemical Treatment of Gasoline"; The Ref. & Nat. Gas Manufac., Vol. 7, No. 5, May, 1928, Page 96; Nat. Petrol. News, Vol. 20, No. 17, April 25, 1928, Page 48; The Oil and Gas Journal, April 26, 1928, Page 142; M. B. Cook and H. P. Rue, "Studies in the Fractional Distillation of Crude Petroleum," Tech. Paper 431, Bureau of Mines, 1928.

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing and transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Why Property Line Is Considered in Selection of Input Wells

In a recent issue of The Oil and Gas Journal you made the statement in your page devoted to field problems that line wells should not be used for injection purposes in repressuring unless the owner of the adjoining property repressures his property too or the encroaching edgewater front is immediately below the line wells on the structure. May I ask for more detail as to the reason for this? I would like to ask too whether a well that produces water is all right for injection purposes. To what extent is the volume of gas available a factor in determining the number of input wells required? I am thinking of undertaking some repressuring work on some property here and information on the foregoing points will be of value to me.—E. F. E.

Self interest prohibits selection of line wells for injection use where the owner of adjoining property is not going to repressure or where encroaching edgewater is not immediately below the line wells structurally. Gas will migrate to low-pressure areas and high fluid levels would have to be carried on line wells to prevent benefiting a neighbor who is not repressuring his property unless input wells are at least two locations away from a nonrepressured property. Oil properties that are surrounded by edgewater can be repressured best by injecting the gas into wells immediately above the edgewater front, because there is evidence on many properties that pressure-restoration operations tend to hold back encroaching edgewater and that irregular encroachment of edgewater can be controlled and the water made to flow up the structure with a regular and uniform front.

Wells that produce water generally make poor injection wells, according to H. C. Miller, senior petroleum engineer in the U. S. Bureau of Mines. High pressures usually are required to force water through oil sand, and if the water is present in large quantities there is danger of flooding sands that still contain large quantities of oil and causing the trapping of much oil that can not be recovered later except by water-flooding the property or mining the oil sands.

The volume of gas available for injection purposes is sometimes a deciding factor in determining the number of wells that should be used for injection purposes. If only a limited volume of gas is available and air is not used to repressure the property, the compressed gas should be injected into the low-pressure areas until such time as the formation pressures in those areas are restored to a par with the pressures in the tighter areas or until additional gas has become available. Subsequent injection may then be divided between the wells in the high-pressure and low-pressure areas, or continued through the wells in the low-pressure areas, depending upon which wells give the best distribution of the injected gas.

Pressure restoration operations usually increase the supply of gas within a short time after injection operations have begun, so that the insufficient supply at the beginning of repressuring operations is soon augmented by gas from the reservoir sands and there will be plenty of gas to permit all wells that have been set aside for injection wells to be used as such.

Good Paint Job Needs Thorough Preparation of the Surface

We are planning to do a good deal of painting around the lease in the next few months and I am anxious to make the work as good and lasting as possible. Most of the jobs will be the outside of buildings, but there will be a lot of interior work too, besides some metal surfaces. Paint jobs that I have done or directed in the past have not been as enduring as I think they should have been, although I observed the usual rules about preparing the surface of the material to be painted. I would appreciate any more detailed suggestions concerning the preparation of surfaces to be painted.—A. O. O.

Preparation of surfaces to be painted is of utmost importance in achieving a high-grade job. In the first place, if wood is to be painted it should be dry. The surface of wood may appear dry to the eye but by test it may be found to contain moisture near the surface. A paint job may be damaged by moisture seeping through the wood and reaching the painted surface from the back. It is therefore good practice to know that both sides of a wooden object to be painted is protected against the entrance of moisture.

If the surface has been painted previously it is best to remove all the old paint before applying the new coat. Scraping and using a wire brush will remove most of the old paint, and sandpapering or sandblasting will clean the surface sufficiently to permit the paint to adhere properly.

Other precautions to take in preparing wood surfaces include examination of the wood to determine whether it is of a kind that may contain resins or other saps in the pores that later will tend to come to the surface. Make sure that the surface is free of dust and dirt because painting over this type of foreign material does not aid in making a paint job last its normal life.

Metal surfaces may be covered with rust that should be removed if the paint is to have a surface suitable for proper application. The large flakes of rust that are easily seen do not represent the only type of corrosion products that must be removed, for there are frequently minute particles of rust tightly stuck to the metal surface that can be removed only by sandpapering or sandblasting.

In painting around buildings or equipment on an oil lease it seems hardly necessary to caution the painter about having a surface free from oil or grease. Being familiar with petroleum and its products, it is assumed that the oil field worker knows and appreciates the harm that will come from applying paint or other coatings over oiled or greasy surfaces. The fact that a liquid made by the refineries is used as a substitute for turpentine and is suitable for cleaning surfaces preparatory to painting should help the oil field worker to properly prepare metal surfaces.

Key to Abbreviations of Terms in Common Oil-Field Use

So many requests are received for explanation of the abbreviations used in drilling reports and elsewhere to denote various operations or conditions concerning oil and gas wells that the appended list is republished. Other abbreviations are likely to be employed as need for them is felt, and different areas and even different operating companies and individuals are likely to have abbreviations of their own.

There is no fixed rule concerning the use of capital letters or of periods and it is not an uncommon practice to dispense with both. It is suggested that persons who have occasion to study oil-field reports in which abbreviations are used preserve this key:

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
Br. sh., brown shale.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.R.T., moving in rotary tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging (or plugged) back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.P., pulled pipe.
R.A., right angle (referring to location).
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rig going up, rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down waiting orders.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.M.B., state mining bureau.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
S.R., straightreaming.
S.T., sidetrack.
Stdg., standardizing (also standing).
Stk., streak.
S.W., salt water.
Swb., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.

Why Was It Called That?

RUG

The handsome rugs which contribute beauty and comfort to many oil company offices of the present had no place in the pioneer days when an oilman's office oftentimes was under his hat. The origin of the word "rug" is somewhat obscure, but there is supposed to be relationship with the Swedish "rugg," entangled hair. Factories now weave rugs that cover all rooms on the first floor of a building, continue up the stairs and cover all the rooms on the second floor, without a seam anywhere. The largest rug in the world is said to be in Nebraska's new state capitol.

NATURAL GAS DEVELOPMENTS

Lone Star Gas Co. Wins Verdict in Texas Case

AUSTIN, Tex., July 30.—Charles A. Wheeler, Travis County District Judge has entered formal judgment for the Lone Star Gas Co. in the rate case trial brought by the state. Assistant attorney generals representing the state gave notice of appeal after a motion for a new trial was overruled.

After the trial before a jury, a rate of 32 cents per 1,000 feet at city gates, set by the Texas Railroad Commission, was adjudged unreasonable and unjust as to the gas company, and its enforcement restrained. The rate now in effect is 40 cents per 1,000 feet.

Victory for the Lone Star Gas Co. in its court fight against an order of the Texas Railroad Commission reducing the gate rates of the system dealt a severe blow to the movement to bring about reduced rates in all parts of the state.

The Lone Star suit was regarded as the biggest of its kind ever tried in Texas. It required approximately six weeks to try it in the district court. Elaborate and minute valuations were made of the company's property by the state and the company's engineers. A hearing on the valuations extended through several months.

The company refused to put into effect a 20 per cent reduction at the city gates of approximately 250 cities and towns ordered by the commission and asked the federal court to enjoin the commission from enforcing the order. The state went into the Travis County District Court to force the company to recognize its ruling. The federal court stayed its proceedings pending outcome of the state court case.

Many of the cities and towns whose distributing systems purchase their gas from the Lone Star Gas Co. had passed ordinances lowering the rates to domestic consumers and were depending on the state winning the Lone Star case to make them effective.

Two courses remain open to the state. One to appeal the jury verdict and seek to have it set aside by the higher courts. The other would be for the railroad commission to reopen the case on its docket, conduct additional hearings and issue another order.

OTTAWA GAS NEGOTIATIONS

OTTAWA, Kan., July 30. — Ottawa city officials were in Kansas City negotiating with the Panhandle Gas Co. concerning supplying of gas to a municipal gas distributing system which may be set up here. The company has a pipe line crossing Franklin County about 10 miles south of Ottawa. It already supplies some gas to the Empire Gas Co., which in turn supplies the Union Public Service Co. A local gas field also can supply fuel for domestic use, as it does now for the municipal water and light plant.

CHATHAM RATE AGREEMENT

CHATHAM, Ontario, July 28. — The Chatham city council this week formally sanctioned the signing of a new rate agreement with the Union Gas Co. The agreement is for a two-year period and involves some downward readjustment in the gas rates fixed a few months ago.

EDMONTON RATE APPLICATION

EDMONTON, Alberta, July 28.—The Alberta board of public utility commissioners has reserved its decision on the application of Northwestern Utilities, Ltd., for permission to institute a new proposed optional gas rate for Edmonton.

Care and Operation of Orifice Meters; Forethought and Care in Installation

By L. G. RHINEBERGER
Sinclair Prairie Oil Co.*

For economic reasons it is necessary that the maintenance of an orifice meter be kept at a practical minimum, and therefore the particular requirements of each installation should be carefully considered before deciding what respective differential and static ranges the meter should have. The differential range which we will consider first should be such that accurate measurement is obtained at all rates of flow if possible. We realize that if fluctuations are of sufficient violence and proper tempo accurate measurement is impossible with any type of positive or orifice meter. In cases where the fluctuations are wide, but not violent, a dual installation of gauges of different ranges is sometimes desirable.

We now have on the market orifice meters which record the differential pressure by the action of a mercury float, oil float, water float, diaphragm and electric conductivity. The mercury float type is generally used and our discussion will therefore be confined to that type.

Mercury float type differential gauges can be obtained in ranges from 2½ to 200 inches of water, and built to stand from 30 to 5,000 pounds internal pressure. The differential range should be such that in operation the differential recorded should not exceed the static absolute pressure. This factor is of increasing importance as the static approaches absolute zero; casinghead quite often being measured at a static of less than 3 pounds absolute.

The gauge should be installed level to insure proper calibration and eliminate friction generated by float sliding against chamber walls. The zero position of the pen should be such that the meter will run its entire range with some margin at each extremity. The friction in pressure tight shaft should not exceed the weight of the pen arm. In transversing its range the pen arm should follow the chart arc. The mercury used should be free from all impurities, or skin, in order that the meniscus is always of the same form. All connections should be tight and it is well to grease the packing of all valves on meter piping periodically as gas has a natural affinity for oil and will dry packing and cause leakage with resulting false differential. Mercury should be run from high to low side several times when a meter is filled to eliminate any entrapped air. After installation the differential is tested with a water column of the U tube which varies in length, but seldom exceeds 60 inches. Fresh clear water should be used to facilitate reading. The inner walls of the tube should be clean to eliminate undue capillary. The pen arm must be straight and travel the chart arc perfectly throughout entire range. Before you leave the meter take one last look to be sure the bypass of meter piping is closed. Make a habit of this and it will save you much mental anguish worrying whether or not the bypass was left open.

All meter settings should be made from pipe of known uniform diameter and if full flow connections are used the connections should always be made and inspected before the setting is assembled. There should be at least 10 pipe diameter of straightrun pipe upstream and 5 pipe diameter downstream of meter taps. In the event the changes in the direction of flow are not all in the same plane, and if swages or other fittings are used which affect the velocity distribution, straightening vanes should be used. If straightening vanes are used they should be located at least six diameters upstream from the flange or upstream line tap. The accuracy of either the full flow or flange connections, one as compared to the other, is a much debated question and will not be discussed. The full flow connections can only be made accurately after the flanges are screwed to the pipe and if carelessly made can cause serious errors. This type of connection is practically free from errors due to the shifting of the Vena Contracta. Flange connections are accurately drilled by a jig in the machine shop of the manufacturer and it is generally conceded that only slight errors are introduced by even improper flange drillings. This type of connections sometimes introduces errors in measurement due to the shifting of the vena contracta.

Meter installations should be set as far as practical from wells having fluctuating flows, from booster suctions or discharges, and from regulators. In no event should a setting be installed within 500 diameters of a booster or regulator. My personal recommendation would be that meters on lines to or from boosters be several hundred yards removed. Meter settings should be located so as to preclude the trapping of water or gasoline. Usually a meter installation remains in the same location for a long period of time and therefore should be installed in the most accessible location. If a meter setting is located to suit the convenience of the connection gang it may cause no end of inconveniences to the meter man. This is especially true in the case of installations measuring casinghead gas in as much as it is necessary for the gasoline content tester to maneuver his heavy test car to within 50 feet of the meter setting. The actual installation of the orifice meter should be done with forethought and care. If the piping and flange has been in service before the meter man should be certain the taps and piping are not stopped up with scale or corrosion. It would seem unnecessary to mention the direction of flow, yet many meter men of long experience have connected meters backwards.

Static Element

The importance of the static element is equal to the differential These elements are usually of the helical type although the Bourdon type is sometimes used. The elements are made of bronze, steel or an alloy depending upon the range and the constituents of the fluid metered. The element should have a maximum range of at least twice the average operating pressure. In as much as it is generally impractical to test the static element with a deadweight tester in the field the usual practice is to check with a test gauge which has recently been checked against a deadweight tester. Quite often static elements which have been in service do not check throughout their entire range. This can be due to elastic fatigue, corrosion, bent pen arm, or to use under barometric pressure appreciably different from the barometric pressure at the place of calibration. Inaccuracies in recording static pressure may cause great or small errors in measurement depending upon the number of pounds the spring is off and whether the pressure be high or low. A static element of 2 pounds high recording 5 per cent gauge pressure would cause an error of 5.61 per cent, whereas 2-inch high recording 500-pound pressure would only introduce an error of .22 per cent. If full flow connections are used the static will be connected to the upstream side of plate and if flange connections are used the static will be connected to downstream side.

One of the most important factors in orifice meter measurement is the orifice plate. In order to obtain accurate measurement the plate should be made of a noncorrosive metal of sufficient hardness to retain sharp edges. It should be carefully bored or ground, and the size of the orifice determined either by plug gauges or micrometers. The majority of plates are bored or ground, not by meter manufacturers, but by the machinists of the various operating companies. The machining of orifice plates is by no means a job to be entrusted to the average machinist. This work is of precision and should be done by a man who is extremely careful and the size of the orifice should never be determined until the heat of friction due to machining has had time to radiate. The machinist using micrometers should first determine the accurate feel or touch of his instruments by comparing his measurements with plug gauges of known size. In my opinion plug gauges as used in the field are about as accurate as micrometers in the hands of an experienced operator, but I doubt that either method has many advantages over the other. To me it is un-

(Continued on Page 80)

*Before Gas Measurement Short Course, Norman, Okla.

CANADIAN GAS PRODUCTION

OTTAWA, Canada, July 28.—Official figures show that the natural gas production from all Canadian fields in May amounted to 1,442,521,000 feet, compared with 2,177,805,000 feet in April and 1,689,071,000 feet in May, 1933. In the first five months of 1934 the Canadian output totaled 11,877,940,000 feet, a decline of 2.5 per cent from the production of 12,181,836,000 feet in the same period last year.

Imports of mixed (natural and artificial) gas into Canada in May were recorded at 8,923,000 feet worth $5,794, against 9,467,000 feet worth $6,106 in April.

DALHART CASE DELAYED

DALHART, Tex., July 30.—There is slight hope of the City of Dalhart vs. Dalhart Gas Co., case being heard before the fall term of district court in Austin. The case is to compel the gas firm to put in effect lowered rates ordered for Dalhart several months ago by the Texas Railroad Commission. The commission's action was based on a hearing before one of its examiners in Dalhart about two years ago. Following the commission's order the gas company got a temporary injunction in federal court at Ft. Worth. This case is now pending until the mandatory hearing in the Austin district is disposed of.

SASKATCHEWAN GAS LINE

LLOYDMINSTER, Saskatchewan, July 28.—Western Supply Co. of Edmonton has started construction of the new pipe line and distributing system to supply this town from the field recently developed near here by the Lloydminster Gas Co. Some 5 miles of 4½-inch pipe and 3 miles of smaller pipe are being used. The Lloydminster Gas Co. which recently secured a franchise, will handle the distribution.

PERSONAL PARAGRAPHS

JACOB FRANCE, president of Mid-Continent Petroleum Corporation, is a visitor in Tulsa.

* * *

W. E. LEE, independent oil man, Houston, Tex., and MRS. LEE, have been spending a summer vacation in Manitou, Colo.

* * *

KENNETH WILLIAMS has become manager of sales for the engineering and construction department of Byllesby Engineering & Management Corporation.

* * *

GEORGE S. BAYS, chief engineer of the Stanolind Oil & Gas Company, Tulsa, has been made research and advisory engineer, with headquarters in Dallas, Tex.

* * *

E. L. WYCOFF, representative for the National Tube Company, Fort Worth, Tex., is taking an automobile vacation trip with his family to points in the East, spending most of their time in Pennsylvania.

* * *

MR. and MRS. T. W. RHOADS are on an extended automobile trip through the Pacific Northwest on vacation. Mr. Rhoads is assistant division superintendent for the Gulf Production Company, with headquarters at Fort Worth, Tex.

* * *

HERSCHEL HARDEN has been made manager of the Bushton, Kans., branch store the Atlas Supply Company has just opened. The Atlas company recently opened a store at Fairfax, in western Osage County, Oklahoma, with J. G. LEWIS as manager.

* * *

FREEMAN W. BURFORD'S vacation has been marred this year by the breaking of an arm during a tennis game at Colorado Springs, Colo. Mr. Burford is president of the newly formed East Texas Production Company, and was formerly president of the East Texas Oil & Refining Company.

* * *

JOHN M. ABRAMS is spending a pleasant vacation at his lodge at Idylwild in Riverside County, California.

* * *

G. C. FRANCISCO, JR., district land man and in charge of Sun Oil Company offices in Houston, Tex., is the proud father of a 7-pound and 9-ounce baby girl.

* * *

CHARLES J. McLAREN has been appointed general superintendent of the Vernon Oil Tool Company, succeeding GEORGE E. FENTRESS who has retired from the firm.

* * *

GEORGE W. BRINKLEY, manager at El Reno, Okla., for the Oklahoma Natural Gas Corporation, has been transferred to Ardmore, Okla., as of August 1. He was assistant office manager in Tulsa in 1931.

* * *

R. McGOEY, a member of the Union Oil Company's field department with offices at the headquarters of the company in Los Angeles, Calif., has been absent for 10 days, having been summoned to active duty with the California National Guard.

* * *

JOHNNY VALE, of the Texas Company, has been promoted to production foreman and transferred to the Hobbs Pool in New Mexico. W. F. BAILEY, geologist, has been assigned to the West Texas geological staff of the company, with headquarters at Midland, Tex.

EDWARD KOESTER, a geologist of Wichita, Kans., has been assigned to research work in the Pittsburg coal area of eastern Kansas.

* * *

L. P. GARRETT, vice president of the Gulf Production Company, Houston, Tex., and MRS. GARRETT, are in California for a several weeks' visit.

* * *

HENRY ROSENTHAL, head of the Springrose Drilling Company of Oklahoma City, Okla., and Wichita, Kans., was a visitor in Tulsa late last week.

* * *

W. F. KOSTELKA, vice president of the Grogan Oil Company of Shreveport, La., and having plants in East Texas and North Louisiana, was a visitor in Tulsa late last week.

* * *

M. R. SHAFFER, manager of production of the Empire Oil & Refining Company of Bartlesville, Okla., is recovering from a throat ailment that has kept him to his home for some days.

* * *

WINSTON P. HENRY, independent operator and Gulf Coast representative of the Putnam Oil Company, Houston, Tex., is spending a vacation in New York and Connecticut, making the trip by boat.

* * *

C. F. McWILLIAMS has been transferred to the land and scouting department of the Texas Company, and will have headquarters at Midland, Tex. He will be assistant to K. P. HART in charge of the company's office at that place.

* * *

ROBERT W. ATHA, of the Atha Drilling Company, attended a recent house party at the summer lodge of GOVERNOR WILLIAM COMSTOCK, of Michigan, at Grayling, where FIELDING H. YOST, University of Michigan athletic director, and his brother, SENATOR ELLIS YOST, of West Virginia, also were guests. The Yost brothers recently have become interested in the oil industry in Michigan.

H. R. CULLEN, independent operator, Houston, Tex., and family, are spending the remainder of the summer in New York and other eastern points.

* * *

C. H. DERBY has become office manager at the Greybull, Wyo., refinery of Standard Oil Company (Indiana), succeeding W. T. HUGHES, resigned.

* * *

H. T. MORLEY, chief geologist of the Stanolind Oil & Gas Company, Tulsa, has returned to his headquarters after a business trip to the Fort Worth, Tex., office.

* * *

J. M. DAVENPORT has been named secretary of the Independent Refiners Association of East Texas, succeeding FRANK C. ADAMS, who resigned a few weeks ago.

* * *

WILLIAM (BILL) HENRY, head scout in Kansas for the Shell Petroleum Corporation, is away on a vacation and his work is being handled by HENRY (HANK) OWENS, western Kansas scout.

* * *

MR. and MRS. JOHN MOUSER, of Eastland, Tex., announce the arrival of a baby girl, born July 26. Mr. Mouser is land man and scout for the Sinclair Prairie Oil Company in the Ranger district.

* * *

H. B. SIMCOX is the new manager of the Texas and New Mexico division of the Continental Oil Company. He succeeds GEORGE McINTYRE, now an independent oil operator. Mr. Simcox had been in charge of the California division.

* * *

GEORGE BAIRD, assistant to R. E. WERTZ, president of the Amarillo Gas Company, Amarillo Oil Company, Panhandle Pipe Line Company, and a number of subsidiary companies, has been transferred from Amarillo, Tex., to New York City, as secretary-treasurer of the gas interests of the Consolidated Oil Corporation.

* * *

DONALD E. DICKEY is now chief engineer of the Broderick & Bascom Rope Company, with headquarters at St. Louis, Mo.

* * *

E. R. CURRY, formerly with the National Equipment Corporation, has become the Tulsa representative for the Herd Equipment Company of Oklahoma City, Okla.

* * *

WESLEY W. MOORE is now district superintendent in West Texas and New Mexico for the Texas Company. He was formerly petroleum engineer in the area with headquarters at Midland, Tex.

* * *

JAMES WEBB has sailed via New York for Talara, Peru, to resume his duties with the International Petroleum Company, after a three months' furlough at Petrolia, Ontario, and other Canadian points.

* * *

H. H. DUNCAN, supervisor of the U. S. Geological Survey at Casper, Wyo., and PIERRCE LA FLEICHE, state mineral supervisor, also of Casper, have been made additional members of the Colorado-Wyoming production committee of the oil code.

* * *

CHARLES R. HOLLAND, attorney in the legal department of Mid-Kansas Oil & Gas Company, visited his parents at Casper, Wyo., on his vacation. W. M. HOLLAND is assistant general manager of the Rocky Mountain operations of the Ohio Oil Company.

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

August 2, 1909

The Texas Co. establishes offices in London, England. It has had European headquarters in Antwerp, Belgium, for several years.

A dispatch from Alton, Ill., says the Standard Oil Co.'s Wood River refinery has turned out its first roll of petroleum butter. It has the consistency of lacteal butter, but is brown in color. "It lasts longer than real butter and does not become rancid," the dispatch says.

Crude oil is being used in a specially designed burner near Corpus Christi, Tex., to burn the spines off of cactus, rendering it a good stock food. The cactus carries a heavy percentage of water.

20 Years Ago

August 6, 1914

The Cushing Pool is producing 145,000 bbls. a day from the Bartlesville sand and 11,000 bbls. from the Wheeler and Layton sands.

The war in Europe is beginning to have a bad effect on the oil business, exports having fallen off. Stocks of finished oil products are accumulating fast.

Nelson K. Moody, assistant general manager of the Prairie Oil & Gas Co., is at his old home in Titusville, Pa., recuperating from an injury. He recently sprained a tendon in one leg.

10 Years Ago

July 31, 1924

Luling Pool in Southwest Texas is producing 46,500 bbls. per day.

Professor Grzybowski says the Lower Carpathian Mountain area has enough oil reserves to last Poland for 100 years.

Oklahoma Corporation Commission orders the Oklahoma Natural Gas Co. to lower its city-gate rates from 38 cents to 30 cents per 1,000 feet.

Twenty-nine pools produced 69 per cent of the oil produced in the United States in the first half of the year.

W. C. NORRIS, president, W. C. Norris Company, Tulsa, is in Warren, Pa., for the summer.

• • •

PAUL G. WEIDNER, head of the natural gasoline department of the Stanolind Oil & Gas Company, was a recent visitor in the Grass Creek Field of Wyoming.

• • •

A. M. BLAINE, independent oil operator in San Antonio, Tex., gave a barbeque for his friends on his oil lease on the Ritter farm, about 12 miles southwest of San Antonio.

• • •

E. W. EDWARDS, president of the Valvoline Oil Company, accompanied by MRS. EDWARDS, left New York City on the Europa of the North German Lloyd line on a European trip.

• • •

STOCKTON HETH, division manager in Nebraska for the White Eagle Oil Corporation, has resigned and his assistant, J. K. DURFEE, has become manager, with headquarters at Omaha.

• • •

MISS LUCY ANN RAGAN, secretarial service, Mayo Building, Tulsa, is starting a month's vacation which will take her to the World's Fair at Chicago and then to the Jackson Hole country, Wyoming.

• • •

FRANK C. GREENE, a member of the Missouri Geological Survey, has been placed in charge of the water resource campaign now under way in western Missouri. Mr. Greene is a former Tulsa geologist.

• • •

JOHN G. BARTRAM, geologist, with the Stanolind Oil & Gas Company in Casper, Wyo., has been in Craig, Colo., supervising deepening operations and checking cores in the company's test on the Iles Dome Field near Craig.

• • •

LLOYD NOBLE, president of the Noble Drilling Company, has been in the Big Horn Mountains on a fishing trip. He flew to Wyoming in his private plane piloted by Art Oakly. He will inspect drilling operations of the Rocky Mountain Drilling Company, a subsidiary of the Noble company, before returning by plane to his headquarters in Tulsa.

• • •

CLAUDE DUFFEY, independent operator of Midland, Tex., is spending some time in Ohio on business.

• • •

F. R. BRAMAN, in charge of the Tulsa office of the National Tube Company, has returned to his headquarters after a trip to Upton County, Texas.

• • •

E. C. RAPER, chief clerk for the production department of the Tide Water Oil Company at Kilgore, Tex., was in Houston, Tex., during the past week on business.

• • •

D. E. LEGAN, production superintendent for the Tide Water Oil Company, who was in Dallas, Tex., attended the East Texas Zone Drilling Practice Committee's meeting on the cost data of drilling wells. Mr. Legan is vice chairman of the committee.

• • •

E. L. ROLFS, of Crutcher, Rolfs, Cummings, Inc., Houston, Tex., is making an extended business trip which, in the next 30 days, will take him to Dallas, Tex., Tulsa, Denver, Colo., Casper and Rock Springs, Wyo., and Glasgow and Calgary Canada.

• • •

HENRY WHITE, aviation sales manager of the Socony-Vacuum Oil Company, Inc., sailed for Europe last week on the Europa. He was accompanied by W. L. FAUST, head of the marine and aviation divisions of this company. These two Socony-Vacuum representatives plan an extensive airplane tour of Europe in a new plane.

Forsook Cornet for Music of Oil

Oil splashing in the pit sounded sweeter to him than the music of the cornet, so in 1896 W. Scott Heywood gave up the concert stage to become an oil man. His name has been linked with famous oil wells and the discovery of various fields.

W. SCOTT HEYWOOD

Mr. Heywood, residing in Jennings, La., is president of the Jennings-Heywood Oil Syndicate and vice president of the Jennings Oil Company. He is a charter member of the Independent Petroleum Association of America and its vice president for southern Louisiana, and he is chairman of the Regional District No. 2 for the oil code. He was elected a state senator in 1932.

At 16 Mr. Heywood went on the road as a cornetist and for several years he and his brother toured with the Alba Heywood Company. He joined the Iowa State Band, was its cornet soloist at the World Columbian Exposition and then traveled with it. Eventually he became one of the proprietors and cornet soloist of the Dewey Heywood Concert Company.

Yielding to the lure of oil in 1896, Mr. Heywood went to California and promoted a company in the Coalinga Field. The next year he joined the gold rush to the Klondike and he was the first to go over the White Pass trail from the coast of Alaska to the interior with an ox. Full of experience but not much richer, he returned in 1898 to California, and in that year drilled his first oil well in the Coalinga Field.

When the Lucas gusher blew in at Spindletop on the Gulf Coast on January 10, 1901, Mr. Heywood set out for that field where he organized the Heywood Oil Company. His first well made 15,000 barrels daily. His second was the famous No. 2 Heywood, which holds the distinction of being the largest well ever completed in the United States.

Shortly after this Mr. Heywood went to Jennings, La., where he obtained acreage on which the first oil well in Louisiana, Heywood Oil Company's No. 1 Jennings, was brought in September 21, 1901, flowing 7,000 barrels daily.

In 1918 Mr. Heywood operated in the Pine Island Field of North Louisiana and started wildcatting in what now is the Borger Field in Texas. He started the second test ever drilled in Hutchinson County. Later, in 1926, he obtained production in Borger. Mr. Heywood was born in Cleveland, Ohio, in 1872.

R. G. BECHTEL, district superintendent for the Stanolind Oil & Gas Company, Fort Worth, Tex., is spending his vacation in Montana.

• • •

R. V. EVRIDGE, general manager for the Rancho Oil Company, Fort Worth, Tex., has returned to his office after a trip to northern points, visiting the Century of Progress while in Chicago.

• • •

DR. IONEL GARDESCU, petroleum engineer, Houston, Tex., was the principal speaker at the Houston Geological Society weekly meeting. His subject was "The Estimation of Oil Reserves by the Use of the Rate-Cumulative Production Curve."

• • •

ALVIN J. MARTIN, Texas Company production foreman in the Moffat, Colo., division, and MRS. MARTIN, have returned to his headquarters at Hamilton, Colo., after spending their vacation at Catalina Island and southern California points.

• • •

M. J. HEALD has been made division superintendent in charge of the West Texas-New Mexico division for the Texas Company, with headquarters at Wink, Tex. Other changes made were the transferring of W. F. BATSON from Wink where he held the position now occupied by Mr. Heald, to Darst Creek where he is division superintendent. W. W. MOORE has been made district superintendent of New Mexico with headquarters at Lea, N. Mex., and ALEC S. FEILD has been assigned to the company as division petroleum engineer with headquarters at Wink, filling the place left vacant by Mr. Moore's promotion.

H. D. MISER, head of the fuel division of the U. S. Geological Survey, was a visitor in Tulsa last week.

• • •

GEORGE W. JARVIS, president of the Wyalta Oil Company of Casper, Wyo., is in Denver, Colo., on a two weeks' vacation.

• • •

R. T. COLTER, California independent operator, left recently for a European pleasure trip and is expected to be gone until about October 15.

• • •

W. ROSS KEYTE, is in charge of the recently opened office of Dowell Incorporated, in Wichita Falls, Tex., with R. L. WHITE as assistant treating engineer.

• • •

H. C. ADELHELM, secretary and treasurer, Leland Equipment Company, Tulsa is returning home from a two-week vacation spent in the Missouri Ozarks.

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A. R. WILSON, Denver, Colo., division manager, Rocky Mountain division of the Texas Company, was in Casper, Wyo., during the week inspecting company property.

• • •

A. J. HAZLETT, editor and publisher of the Inland Oil Index, has been visiting with his daughter, MRS. D. D. DELLINGER, and granddaughter, in Upper Sandusky County, Ohio.

• • •

E. D. FORQUER, auditor, W. C. Norris Company, Tulsa, has just returned from a combination business trip and vacation to the Gulf Coast of Texas and the East Texas Field.

• • •

F. M. DAVIE, of the Shell Oil Company, and L. L. AUBERT, of the Bankline Oil Company, have been elected members of the board of directors of the California Natural Gasoline Association.

• • •

CAPT. A. A. NICHOLSON, head of the personnel department, and B. H. ANGLIN, manager of the compensation branch of the personnel department of the Texas Company, were in Casper, Wyo., on business. Both are from company headquarters in New York City.

• • •

A. G. MADDREN, consulting geologist, Houston, Tex., is spending some time in Mexico on business.

• • •

MORRIS YaBROVE, Central Michigan oil operator, went to Lancaster, Ohio, last week to meet his family and take them to the Century of Progress at Chicago. He expects to return to his activities in the Michigan fields this week.

• • •

GEORGE LEE, assistant division superintendent of West Texas for the Humble Oil & Refining Company, with headquarters at McCamey, has been transferred to the Cisco division to be assistant to J. W. THOMAS, the division superintendent at that place.

• • •

KIRBY PENICK, secretary-treasurer of the Oil Center Tool Company, Houston, Tex., has left for a several weeks' vacation in eastern United States and Canada. ARTHUR PENICK, president of the company, has returned from a two weeks' vacation in the San Antonio Mountain district.

• • •

C. H. SPRAKE, of the Anglo-American Oil Company's engine-testing department, is now on his way to the United States and while here will represent the Institution of Petroleum Technologists at the forthcoming road tests to be conducted by the C.F.R. Committee on knock rating. R. STANSFIELD, of the Anglo-Persian Oil Company's engine-testing department, who has been in the United States for some time, will also represent the Institution of Petroleum Technologists knock-testing committee.

MARKET RECORD OF OIL SECURITIES

Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1934 High	1934 Low	Week ended July 28 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	1933 High	1933 Low	1932 High	1932 Low	1931 High	1931 Low
55⅝	41½	7,100	49	43½	44	Amerada Corp.	774,875	N.P.	50eQ	7-31-34	47⅝	18½	22¾	12	23	11¼
35¼	21½	18,300	24⅞	21½	22⅜	Atlantic Refining	2,665,234	$25	25eQ	6-15-34	32½	12¾	21⅞	8⅝	23⅝	8⅝
10	6	50,900	7⅛	6	6⅝	Barnsdall Corp.	2,248,795	$5	....	5-11-31	11	3	7	3⅜	14½	4
19¼	7¾	83,500	10½	7¾	9⅛	Columbia Gas & Elec.	11,610,036	N.P.	12½cQ†	5-15-34	28⅛	9	21	4¼	45⅝	11⅝
14¼	7¼	102,500	9⅛	7¼	8	Consolidated Oil Corp.	14,218,835	N.P.	28c	4- 7-34	15¾	5	9	4	15⅞	4¼
22¾	15¾	53,500	18⅝	15¾	17¼	Continental Oil of Delaware	4,738,593	$5	25c	4-30-34	19⅝	4⅞	9⅜	3⅝	12	5
22¼	12	14,500	16⅜	12	13¼	General Asphalt	387,149	$10	....	6-15-32	27	4⅝	15½	4¾	47	9⅜
5⅜	2½	10,700	3⅜	2½	2¾	Houston Oil (new)	1,098,618	$25	....	10-17-30	7¾	1⅞	5⅜	1⅛	14⅛	3
3⅜	1⅜	1,800	1⅝	1⅜	1⅜	Louisiana Oil Refining	1,302,158	N.P.	....	.....	4	⅝	2¼	½	4½	1
14¾	9⅛	12,800	12⅛	9⅛	10½	Mid-Continent Petroleum	1,857,912	N.P.	25c	5-15-34	16	3⅜	8⅞	3¾	16⅝	5
20¾	10	2,900	13	10	10⅛	National Supply of Delaware	382,591	$25	....	5-15-31	28⅝	4	13	3½	10¼	5
15⅞	8½	29,000	11	8½	9½	Ohio Oil Co.	6,563,107	N.P.	15c	6-15-34	17⅝	4¾	11	5	19½	5¼
8⅝	5¾	4,500	7	5¾	5¾	Pacific Western Oil	1,000,000	N.P.	25c‡	10-25-33	9½	3	8	3	15	2⅝
2½	⅝	1,100	1	⅝	¾	Panhandle P. & R.	198,770	N.P.	....	.....	4¼	⅜	1¼	¼	4¼	⅝
20¾	14½	41,600	16⅞	14½	15½	Phillips Petroleum	4,154,687	N.P.	25c	5-14-34	18¾	4¾	8½	2	16⅝	4
16¾	8	17,200	10⅞	8	9¼	Plymouth Oil Co.	990,261	$5	25eQ	6-30-34	17⅝	6¾	12½	6	18	6
14⅞	1¼	25,900	9⅜	7¼	8	Pure Oil	3,038,370	N.P.	....	9- 1-30	15⅜	2½	6½	2⅞	11⅞	3¼
39⅛	32¼	500	33¼	32¼	32¾	Royal Dutch N. Y. shares	432,224	$14	$1.07½	8-14-33	39¾	17⅞	23¾	12⅛	42⅝	13
38⅜	24½	10,900	30	24½	25	Seaboard Oil of Delaware	1,204,460	N.P.	15eQ§	6-15-34	43⅝	15	20⅜	6⅝	20¾	5½
11⅞	6½	16,700	7⅝	6½	6⅞	Shell Union Oil	13,070,625	N.P.	....	6-30-30	11⅝	4	8¾	2½	10¼	2½
89	58	1,100	63	59	60	Shell Union Oil pfd.	400,000	$100	....	7- 1-31	61	28½	65¼	18	78	15
11¼	7¼	8,700	10	7¼	8	Simms Petroleum	461,000	$10	30e	8- 1-34	12⅜	4⅞	7½	3¼	11	3½
11½	6¾	2,400	8¾	6¾	7	Skelly Oil	1,008,514	$25	....	12-15-30	9⅞	3	5¾	2½	12⅞	2
19⅞	12½	74,200	15¼	12½	13⅞	Socony-Vacuum	30,905,006	$25	15eQ	6-15-34	17	6	12¼	5¼	21	8⅜
42⅞	30⅝	23,600	33⅜	30¾	32	Standard Oil of California	13,102,900	N.P.	25c	6-15-34	45	19½	31⅞	15⅞	51¾	23⅛
41	33⅞	100	34	34	34	Standard Oil of Kansas	200,000	$10	50eQ	7-31-34	39⅞	12¾	16½	7	19	7¾
50⅛	40⅞	48,800	43⅝	40⅞	41⅛	Standard Oil of New Jersey	25,740,965	$25	50eSA	6-15-34	47½	22¾	37⅜	19⅞	52½	26
63⅞	51½	1,500	63	59	59	Sun Oil	1,733,013	N.P.	25eQ	6-15-34	59	35	39⅞	24⅜	45¼	26¾
29⅜	20	27,800	22¾	20	21⅞	Texas Corp.	9,352,371	$25	25eQ	7- 1-34	30⅛	10¾	18¼	9¼	36¼	9⅞
6½	2½	9,100	3½	2½	2⅞	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	6½	1⅜	4	1½	6½	1⅜
14¼	8½	27,700	10⅝	9	9¼	Tide Water Associated	5,618,672	N.P.	....	2-16-31	11¾	3½	5⅝	2	9	2⅛
84¾	64½	1,300	81⅞	77	77	Tide Water Associated pfd.	666,524	$100	$1.50Q	4- 1-34	65¼	23½	60	20	68	20½
20½	13¾	9,900	16⅜	13¾	14⅜	Union Oil of California	4,386,070	$25	25eQ	5-10-34	23⅜	8½	15⅜	8	26⅝	11
21¼	15¼	2,700	20	18	18½	Union Tank Car	1,200,000	N.P.	30eQ	6- 1-34	22¾	10½	19¼	11¾	25½	16
5⅜	2½	3,500	3⅛	2½	2¾	Wilcox Oil & Gas	424,839	$5	....	5-10-28	5½	2	8¾	2¾	9⅜	2⅜

*Ex-dividend. †Payable in 5 per cent convertible preferred stock. ‡Initial dividend. §Plus extras.

Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1934 High	1934 Low	Week ended July 28 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	1933 High	1933 Low	1932 High	1932 Low	1931 High	1931 Low
38	26	350	32	26	27¼	Buckeye Pipe Line Co.	200,000	$50	75eQ	6-15-34	39¾	25	35	17½	56	30
5½	2⅝	6,500	3⅛	2¾	2⅞	Carib Syndicate	579,000	25c	....	.....	7⅝	¼	⅝	⅛	2⅝	¼
126½	115	250	123½	122	122	Chesebrough Mfg. Co.	120,000	$25	$1Q†	6-29-34	129	71	90	53	129½	75
4¼	1⅝	67,300	2	1⅝	1⅞	Cities Service	37,804,394	N.P.	....	6- 1-32	6¼	1½	6⅞	1¼	20¾	8
3¼	1¼	700	1⅜	1¼	1⅜	Colon Oil	2,200,000	N.P.	....	.....	4	¼	1¼	¼	3⅛	⅛
3⅞	1⅛	1,500	1⅝	1⅛	1⅛	Cosden Oil	399,687	$1	....	.....	3⅞	1⅜	2⅞	¼	3⅝	⅜
13⅜	9⅝	44,700	12½	11½	11⅝	Creole Petroleum	6,974,356	$5	....	.....	12	4¾	3⅛	1⅜	3⅞	1⅝
7½	4¾	2,000	5⅜	5⅛	5⅜	Darby Petroleum	509,696	$5	25c	2-15-34	8	2⅛	7⅛	1⅜	2½	1⅝
2¼	1¼	100	1¼	1¼	1¼	Derby Oil & Refining	263,162	N.P.	....	.....	2¾	⅞	3	1	6	1½
36	30	150	33¼	30	30	Eureka Pipe Line	50,000	$100	$1Q	8- 1-34	41¾	20	35	18	36	19
76¾	50	7,700	58¾	50	57⅛	Gulf Oil Corp.	4,538,101	$25	....	10- 1-31	62	24	44¾	23	75½	25⅝
46¾	33½	16,200	41¾	38⅝	40½	Humble Oil & Refining (new)	8,923,935	N.P.	25eQ	7- 1-34	105½	40	55	35⅝	72	44½
15½	12⅝	24,800	14⅜	13	13⅝	Imperial Oil of Canada	26,857,152	N.P.	25eSA†‡	6- 1-34	15⅞	6½	10⅞	6¼	18¼	7⅝
6⅞	3⅞	100	4½	4½	4½	Indiana Pipe Line	300,000	$10	15eSA	5-15-34	8	3⅛	7½	2¾	21⅛	5½
30⅝	19⅜	27,400	27⅝	24½	25¾	International Petroleum	14,247,088	N.P.	56eSA†‡	6- 1-34	23½	8⅞	12¼	8	15½	7⅝
3¾	2⅞	10,200	4	3⅜	3½	Louisiana Land & Exp.	3,000,000	N.P.	....	.....	2¼	⅛	2½	½	2	½
5⅞	3½	100	3½	3½	3½	Lion Oil Refining	270,000	N.P.	....	10-27-30	9½	1¼	3½	⅞	6⅝	1½
8¾	4⅝	5,300	5⅛	4¼	4⅝	Lone Star Gas	5,382,723	N.P.	16cQ§	3-31-34	11⅞	4¼	11	3⅜	29	5½
5½	4	900	4⅞	4½	4¾	Mountain Producers	1,593,584	$10	15eQ	4- 2-34	6½	2½	4¾	2½	5⅞	2
18¼	13½	2,300	15	13½	14¼	National Fuel Gas	3,810,183	N.P.	25eQ	4-16-34	20	10	14⅝	8	26½	9⅝
9⅛	7⅝	400	8	7¾	7¾	National Transit	509,000	$12.50	40eSA	6-15-34	10	5½	10½	6	17½	5
2¼	1⅝	3,100	2¼	2	2¼	New Bradford Oil	1,445,202	$5	10c	3-15-34	2½	½	⅞	¼	1½	½
2⅜	1	800	1⅛	1⅛	1⅛	New Mexico and Arizona	1,000,000	$1	....	.....	1⅞	½	1¼	⅜	3	⅝
4⅜	3	200	3½	3	3	New York Transit	100,000	$5	15eSA	4-14-34	4⅞	3	9¾	7½	14½	5⅞
7	4⅝	No Sales				Northern Pipe Line	120,000	$10	25eSA	1- 2-34	6⅛	4¼	5½	3⅛	35½	20
2⅝	⅞	5,000	1½	1¼	1¼	Pantepec Oil	1,608,700	N.P.	....	.....	3⅜	⅛	⅝	1/32	2	⅜
3⅛	1	300	1	1	1	Ryan Consolidated	296,931	N.P.	....	.....	4¼	⅝	2⅛	⅝	3	⅝
7⅞	5½	2,100	6	5½	5½	Salt Creek Producers	1,496,859	$10	20eQ	8- 1-34	9¼	3½	5½	2⅞	7⅝	2⅝
26½	17½	4,100	23½	19⅝	20½	South Penn Oil	1,200,000	$25	30eQ	6-30-34	22⅛	11	16½	9⅝	23⅞	9¼
5¼	4	300	4⅜	4⅛	4⅛	Southern Pipe Line	100,000	$10	10eSA	3- 1-34	6	2⅛	10	3¾	17	7
47	41	100	45	45	45	Southwest Penna. Pipe Lines	35,000	$50	$1Q	7- 2-34	43	24½	37	27	42½	25
32¾	25	23,900	26¾	25	25⅝	Standard Oil of Indiana	15,528,504	$25	25eQ	3-15-34	34	17	25½	13⅛	38½	13½
17⅝	14⅝	5,700	16¼	15	15¼	Standard Oil of Kentucky	2,606,983	$10	25eQ	6-15-34	19¼	8⅝	15⅞	8⅞	23⅝	12¼
16⅝	9	1,000	12	9	9	Standard Oil of Nebraska	190,822	$25	25eQ	6-20-34	20½	11	19	10¼	36½	16
27½	14	1,750	10	14	16	Standard Oil of Ohio	753,740	$25	....	1- 3-33	41	15½	30⅛	15½	62½	28
2	1/32	3,500	1⅛	1	1	Sunray Oil	1,162,840	$5	....	4-15-31	1½	¼	⅝	⅛	5¼	¼
11	4⅝	3,000	4⅞	4⅜	4⅝	Texon Oil & Land	936,028	N.P.	15eQ	6-30-34	13¾	6¼	10½	4½	12⅞	2½

*Ex-dividend. †Plus extras. ‡Payable in Canadian funds. §Payable in preferred stock.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

Rocky Mountain Area

(Continued from Page 72)

district, is drilling at 2,175 feet. Corrected data on the California Co.'s No. 1 Northwestern Properties Co., SW NE SE Section 20-28-4w, West Pondera, reported abandoned last week, is that it topped the Madison at 2,570 feet and was abandoned at 2,621 feet, total depth. Sulphur water rose 1,900 feet in the hole.

Teton County

Ned Cheadle and others' No. 1 Balsinger, NE SE NW Section 20-27-5w, West Pondera, ran the 8¼-inch to 2,150 feet and is cleaning out to bottom at 2,160 feet.

Toole County

In the Devon district, Thelan & Freeman's No. 1 Johnson, NW NE NE Section 29-33-2e, is drilling at 1,435 feet, below the sands in which it had 4,500,000 feet of gas. C. Leonard Smith, and others' No. 1 McDonough, NW cor. Section 17-33-2e, is standing at 1,570 feet, and his No. 1 Federal Land Bank, C NE SE Section 11-33-1e, has machine on location. His No. 1 Eckhoff, C SE Section 6-33-2e, is spudding, and his No. 1 Halverson, C NE SE Section 18-33-2e, is spudding. Smith's No. 1 Lake City, C NW SE Section 17-33-2e, is rigging up.

In the Kevin-Sunburst Field, the Eagle Petroleum Co.'s No. 4 Haugen, C SW NE Section 12-35-3w, was completed for 60 bbls. daily after being treated with acid. Depth not reported. A new operation is William Knight's No. 1, SE NW SW Section 19-35-2w, which has rig on location. Vanderpas-Hepstad's No. 8 Helgerson, NW NW Section 28-35-1w, is drilling at 350 feet, and E. R. McKee's No. 6 McKee, NE SE Section 24-35-2w, is drilling at 300 feet. The Texas & Pacific Coal & Oil Co.'s No. 11 Howling, SE NE Section 9-35-2w, is rigged and ready to spud, and A. C. Crumley's No. 4 Fryberger, SW SE SW Section 24-35-2w, has completed rigging.

WYOMING

Albany County

The Ohio Oil Co.'s No. 1 Chappell, C SE NW Section 28-21-76, East Rock Creek, is drilling at 3,943 feet.

Big Horn County

The Ohio Oil Co.'s No. 2 Byron-Union, C SE NE Section 22-56-97, Byron district, is drilling at 1,729 feet.

Carbon County

The Ohio Oil Co.'s No. 1 Morris, C NW SE Section 6-20-77, Diamond Dome, is drilling at 1,920 feet, and Earl W. Reeder, Inc. No. 1 Union Pacific, C SW SW Section 19-20-83, Overland Dome, is drilling at 5,030 feet in black shale.

Hot Springs County

The California Exploration Co.'s No. 1 Government, NE SE NE Section 12-44-97, Waugh district, is running the 10-inch to 1,892 feet.

Park County

The Dry Creek Oil Co.'s No. 1, Lot 2, Section 9-50-100, Oregon Basin, cemented the 15½-inch at 59 feet.

Paul Stock's No. 1 Government, SE cor. NE Section 29-51-100, the first well completed in Oregon Basin for several years, was drilled to 3,636 feet, 41 feet in the pay, and is estimated at 300 bbls. daily. It is running tubing to test.

Weston County

Carl Cundy's No. 8, CWL SE NE Section 31-46-63, on the long-neglected southeastern side of the field, appears to have opened a new pool. It was drilled to 1,415 feet and found the pay at 1,380-98 feet. It filled up and slopped over when the casing was run. After swabbing down it filled up 1,100 feet over night through 150 feet of cavings. It is estimated that it will pump 60 bbls. daily. This is the only active operation in the field.

Fremont County

The Monongahela Oil Co.'s No. 1 Wisda, NE SE SE Section 13-28-93, Crook's Gap, is drilling below at 2,500 feet, and is looking for the Frontier at around 2,750 feet.

UTAH

The Ramsey Petroleum Corp.'s No. 1 Weightman, SW NE SW Section 18-26-7e, Last Chance Structure, Emery County, apparently has overcome a run of bad luck resulting from 300 feet of cavey ground and is bottomed at 2,123 feet waiting for 8¼-inch pipe. Three joints of 10-inch with the tools in them collapsed. Sidetracking was successfully completed and the iron cemented in the wall. The 8¼-inch will be underreamed to bottom and carried probably to 3,000 feet, or more. The hole is bottomed in the Chinlee and is logging closely with the original estimates. Three objectives will be tested within the next 1,000 feet and the main objective, the Pennsylvanian, at around 4,000 feet.

Eastern Fields

(Continued from Page 67)

Clay district. Cottrell and others are down 825 feet on the M. S. Riggs farm. In Murphy district, W. H. Bickel has reached 750 feet in No. 3 on the U. S. Fluharty farm and has completed rig on the Harry Miller farm. In Grant district, L. N. Rinehart is drilling at 1,850 feet on the W. E. Rinard farm, a test. Gillman and others are down 1,664 feet on the Stephen Gillman farm.

In Roane County, Guy Boggess and others have started drilling on the O. M. Young farm in Smithfield district. In Reedy district. Law and Leeton are drilling at 930 feet on the O. M. Tatterson farm. In Washington district, Jackson County, H. F. Parsons and others have started drilling on the W. L. Kelly farm.

In Tyler County, Kingsley Baker and others have a rig standing on the S. A. and E. E. Riggs farm in Centerville district. In Meade district, the test of the Ohio Oil & Gas Co. is standing at 1,880 feet on the Rebecca Ash farm.

In Wetzel County, Rowe Bros. have rigged on the F. B. Jones farm in Green district. In Proctor district, Wiser Oil & Gas Co. is drilling on the Melvina Baxter farm and has reached 810 feet. G. N. Yoho and others are building a rig on the George A. Smith farm, same district. In Center district, Chambers Oil & Gas Co. is building a rig for No. 2 on the Harrison Melott farm.

In Wayne County, Fairfax Gas Co. has reached 1,800 feet on the H. C. Taylor farm in Ceredo district. In Stonewall district. C. L. Dixon is drilling deeper No. 1 on the Charles Jones farm and has reached 2,892 feet.

In Wood County, Athey Oil Co. is drilling on the D. W. Chichester farm in Williams district. In this district, Hartman and Love are drilling on the Ben Mayo farm. In Walker district, Roberts and Pepper have made a location on the John Roberts farm.

SOUTHWEST PENNSYLVANIA

There was only one well completed in Southwest Pennsylvania. In Chartiers Township, Washington County, Cannonsburg Iron & Steel Co. completed a test on the Jeff Tarr farm in the Fifth sand at 2,923 feet. It is showing for a gas well with a of volume 250,000 feet a day.

In Amwell Township, Washington County, Carnegie Natural Gas Co. has reached 2,505 feet in deepning the test on the N. B. Redd farm. Its test on the Farabee farm is drilling at 940 feet. The Pittsburgh Coal was placed at 685 feet. On the A. M. Cole farm, this company is rigging up. Philadelphia Oil Co. is clearing a location for No. 3 on the Huld Kenkins farm.

In East Findley Township, Washington County, the Clutter and Sprowls wells are holding up in excess of 50 bbls. a day, which is still fair as the Clutter well was drilled in last December. About 200 feet south of the Sprowl No. 2 which off-sets the Clutter well, Union Gasoline & Oil Corp. has completed a rig for No. 4 on the Sarah Carter farm.

In Greene County, Carnegie Natural Gas Co. has reached 2,835 feet in deepening No. 1 on the E. D. Patterson farm, Perry Township. In Center district, the test of J. B. Orndorff on the W. H. Scott farm is drilling at 2,180 feet. New Oil & Gas Co. resumed drilling on the J. F. Wilson farm and reached 400 feet. Greene County Gas Co. is reaming out the hole at 1,275 feet on the Stephen Crayne farm before drilling deeper.

In Fayette County, Carnegie Natural Gas Co. has reached 1,775 feet on the George N. Boyd farm in Jefferson Township.

Oklahoma Fields

(Continued from Page 58)

had a potential gauge of 1,499 bbls. for 24 hours, production coming from Misener and Hunton lime found from 3,988 to 4,024 feet, total depth, which had been acidized with 1,000 gals.

Delton Oil Co.'s No. 1 Fixico, SE cor. Section 7-11-8, Okfuskee County wildcat test, was drilling ahead at 3,782 feet after getting dry Cromwell sand from 3,628-40 feet.

Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s wildcat test, No. 1 Goodman, SW NE NE Section 5-10-4, Pottawatomie County, is shut down changing from electric to steam rotary tools. Earlsboro sand was topped at 4,405 feet, and a core from 4,425-40 feet, showed oil. Total depth is 4,453 feet.

In the Earlsboro townsite sector, Atlantic Oil Producing Co.'s No. 1 Pickens-Clardy, C SW NE Section 12-9-4, swabbed 40 bbls. in 12 hours from Hunton lime 4,190-4,211 feet. Total depth was 4,212 in Sylvan shale. It was not completed.

Blackwell Oil & Gas Co.'s No. 1 Whala-pease, SW cor. Section 7-9-5, was completed for 1,440 bbls. on a 48-hour potential test, production coming from acidized Hunton lime from 4,142-66 feet. This one was plugged back to 4,166 feet from a total depth of 4,167 feet in Sylvan shale.

In the south Searight Pool, Carter Oil Co. was preparing to acidize its No. 2 Joe, C W half NE SW Section 2-9-6. Hunton lime was had from 4,006-46 feet total depth.

In the Bowlegs sector, Magnolia Petroleum Co.'s No. 1 Williams, SE SW NW Section 18-8-7, has Cromwell sand from 3,260-63 feet, total depth, and was completed for 230 bbls. in 24 hours through tubing.

Amerada Petroleum Corp. and Stanolind Oil & Gas Co.'s No. 1 Black, SE NW Section 27-8-8, have logged Viola lime from 4,158-74 feet, total depth, set 6-inch casing and are rigging up cable tools.

The Texas Co.'s No. 1 Reed, NW SE Section 27-8-8, is also shut down for cable tools. Viola lime was had from 4,118-24 feet, total depth and 8-inch casing set at 3,940 feet.

Wrightman Oil Co.'s No. 1 Commercial Trust Co., SE NE NE Section 28-8-8, had show oil in Hunton 3,980-4,112 feet; cored small show of oil in Wilcox sand 4,298-4,307 feet, total depth, and is now being rigged up with cable tools after 6-inch casing was set at 3,997 feet.

In the Holdenville sector, Mainard and others' No. 6 Moore, C E half NW NE Section 22-7-8, was completed in Calvin sand 1,178-1,201 feet, total depth, for 72 bbls. on the pump after a 30-quart shot.

In the Saskawa Townsite Pool, Stanolind and others' No. 2 Harbert, SE NE NE Section 35-6-7, was completed for 350 bbls. in 4 hours. Production is coming from Wilcox sand found from 4,067-69 feet, total depth.

New work in the Greater Seminole area includes the following: Atlantic Oil Producing Co. and Gypsy Oil Co.'s No. 1-A Delwar, NE cor. Section 13-9-4, location; Atlantic Oil Producing Co. and Phillips Petroleum Co.'s No. 2 Dobb, NW cor. Section 18-9-5, location; Rogers Oil & Gas Co.'s No. 1 McNac, NE NW SW Section 18-8-7, location; Fleetborn Oil Co.'s No. 1 Stokes, SW NW NW Section 27-8-8, moving in rig; Mid-Continent Petroleum Corp.'s No. 9 Factor, SE NE SE Section 15-7-8, machine; Magnolia Petroleum Co.'s No. 1 Reed, NE SE SE Section 30-7-8, location; Wolf Oil Co.'s No. 1 Champlin, NW cor. Section 32-7-8, location; Harris & Hays' No. 1 Harjo, NE SE NW Section 11-6-6, old well drilling deeper, old total depth 2,935 feet, setting whipstock.

St. Louis Development

Just northeast of the St. Louis Pool of Pottawatomie County, Marydon Oil Co.'s No. 1-A Stalnaker, NW SE Section 24-8-4, had Viola lime at 4,224 feet with a show of oil in the base, topped Simpson at 4,271 and was drilling ahead at 4,324 feet with nothing showing.

Earle Halliburton is preparing to acidize his No. 3 Pierson, NW SE NE Section 9-7-4. Hunton lime was had from 3,653-3,716 feet, total, depth, filling the hole 400 feet with oil.

Mid-Continent Petroleum Corp. logged Huston lime from 3,739-56 feet which showed oil in its No. 3 Robbins, NE SW Section 9-7-4, 5-inch casing was set at 3,735 feet and cable tools are being rigged up.

Superior Oil Co.'s No. 1 Caudle, SW NW NW Section 24-7-4, old well drilling deeper, was completed for 25 bbls. on pump, production coming from Hunton lime based at 4,115 feet. Total depth was 4,322 feet in Simpson dolomite which carried water. It was plugged back to Hunton lime for the production.

In the south end of the St. Loui Pool, Jones and others' No. 2 Lucas, SW NE NW Section 2-6-4, topped Simpson formation at 4,180 and was drilling ahead at 4,230 feet with nothing showing.

New work in this area includes a wildcat test being started by W. D. Grisso about 2 miles west of the Maud Pool and 5 miles north of the St. Louis Pool. It is No. 1-A Kenyon, C NE SE Section 3-8-4, surrounded by several significant dry holes. Other new operations are Mid-Continent Crude Oil Purchasing Co.'s No. 1 Beal, SW NW SW Section 38-8-4, rig; Darby Petroleum Co. and Atlantic Oil Producing Co.'s No. 2 Standridge, NW SW SW Section 10-7-4, location; Dingee and others' No. 1 Risenhoover, SE NW NE Section 14-7-4, location, and E. W. Jones' No. 1-A Kanatser, CEL SW SW Section 18-7-4, rig.

Pontotoc County

Pontotoc activity over the week resulted in three completions in the Bebee Pool and one completion in the Fitts Pool, and three locations being staked in the latter sector.

Mid-Continent Petroleum Corp.'s No. 1 Milligan, SE NE NE Section 25-5-4e, West Pool, initialed 1,555 bbls. in 22 hours from Hunton lime found at 2,340-46 feet, total depth. It was finally completed for around 700 bbls., flowing natural.

The same company's No. 2 Milligan, SW NE NE Section 25-5-4, did not produce from the Hunton lime which had only a small show of oil, but found the Viola lime good for around 500 bbls. of oil and 200 bbls. of water. Viola was from 2,498-2,584 feet, total depth. It was completed.

Moore and Deaner's No. 4 Gray, NW SE NE Section 25-5-4, had Viola lime from 2,413-2,603 feet, total depth, swabbing 57 bbls. in 8 hours natural. A 230-quart shot increased production to 220 bbls. on pump for which it was completed.

In the Fitts area, W A. Delaney's No. 2 Craddock, NE cor. Section 25-2-6, topped Viola lime at 4,032 feet swabbing 86 bbls. from same at 4,250 feet. It was finally completed for 317 bbls. in one of the Simpson sands 4,440-48 feet, total depth. Oil tests 38½ degrees gravity.

Pontotoc County first reports follow: W. A. Delaney and others' No. 1 Craddock "B," NE SE Section 25-2-6, location; Schermerhorn Oil Co.'s No. 1 Banks, SW SE SE Section 16-2-7, rigging rotary tools; Blackstock Oil Co.'s No. 1-A Hardin "D," NE SE NW Section 30-2-7, (deep sand rights), building rig; Magnolia Petroleum Co.'s No. 1 Craddock, SE cor. Section 24-2-6, cellar.

SOUTHERN OKLAHOMA ACTIVITY

Jackson County

The wildcat "come-back" well of the

Gypsy Oil Co., No. 1 Kelly, NE cor. Section 10-1n-20w, Jackson County, which was given up as a bad job at 2,084 feet, total depth, later to start producing a small amount of oil and gas of its own accord from sand 1,680-88 feet, is to be abandoned and preparations are under way for a twin well to be drilled. Cellar has been dug and pits were being dug for No. 1-A Kelly, just 50 feet east of the first test.

Marshall County.

F. Clark and others' No. 1 Adams, NW SW NE Section 6-8s-6e, Marshall County, was dry and abandoned at 560 feet, total depth.

The Centrop Oil Corp.'s No. 4 Ayers "A," SW NE NE SE Section 25-7-5e, was completed for 15 bbls. from sand 504-12 feet, total depth.

R. A. Godfrey's No. 5 Burge, SW SE SE Section 25-7s-5e, produced 15 bbls. from sand 523-33 feet, total depth. It was a completion.

Paul Richardson's No. 1 Ayers, NE SE Section 30-7s-7e, was deepened from 906 to 1,005 feet, at which depth it was dry and abandoned.

Marshall County had two first reports: R. A. Godfrey's No. 6 Burge, SW NW SE SE Section 25-7s-5e, drilling 50 feet; R. A. Godfrey's No. 1 Eppler, NW NE NE Section 36-7s-5e, location.

Jefferson County

Jefferson County development for the week was as follows. Farlyn Oil Co.'s No. 20 Seay, NW SE SE SE Section 3-7s-5w, was completed for 50 bbls. oil from sand 1,210-60 feet. Total depth was 1,262 feet.

Bridwell Oil Co.'s No. 2 Barnett, NE SW NE Section 30-6s-5w, produced 53 bbls. of 33 gravity oil from sand from 1,516-28 feet, total depth, and was completed.

Jefferson County had one new start in the Farlyn Oil Co.'s No. 21 Seay, SW SE SE SE Section 3-7s-5w, drilling 262 feet.

Stephens County

The Merco Oil & Gas Co.'s No. 2 Trout, SW NW NW NW Section 1-2s-8w, was completed for 17 bbls. of oil from sand 1,403-14 feet, total depth.

Mitchell & Cavette's N1-A Speagle, CEL SE SW SW Section 10-2s-5w, had oil showings in sands 910-15, 1,015-33 feet, and was dry and abandoned at a total depth of 1,085 feet.

Atoka County

Oklahoma Oil Corp's No. 1 Tubbi, SW NE SE Section 11-2s-8e, topped Hunton lime at 2,445 feet and at 5 feet in, was shut down.

Atoka County has a new wildcat test starting up in T. C. Ramler and others' No. 1 Roberts, SW SE SW Section 6-2s-12e, drilling 145 feet.

Too Much Oil Produced Mr. Sadler Tells Tulsans

"Too much oil now is being produced and this is revealed in the fact that allowables are fixed and then we exceed them," said E. J. Sadler, vice president of the Standard Oil Co. (N. J.) during a visit to Tulsa last week. He continued: "This condition in the United States should be corrected if we are to continue to ask our foreign neighbors to cut back. Rumania agreed to curtail and then she was flooded with foreign oil. We must control our own production if we are to renew our conferences with other powers on the problems of the industry. The United States, which produces approximately 65 per cent of the world's supply, is holding back, and could do better."

With Mr. Sadler were F. W. Abrams, president, and C. F. Smith, vice president of the Standard Oil Co. of New Jersey of Delaware; George W. Gordan, vice president in charge of the Standard's South American refineries; R. F. Bolton, assistant to H. G. Seidel; H. L. Shoemaker, secretary of the co-ordination committee; H. H. Hill, chief petroleum engineer; E. P. Salisbury, statistician; T. B. Scott Jr., fiscal agent of the Carter Oil Co. in New York City; W. J. Edmonds, assistant to S. P. Coleman, all of New York City.

L. L. McCloskey, vice president and director of refineries, and Bart A. Myers, production manager, both of Imperial Oil, Ltd., of Toronto, Canada, were also with the party as were J. C. Hilton, president, and H. H. Hewetson, vice president of the Standard of Louisiana, both of Baton Rouge; Harry Weiss, executive vice president and director; Wallace C. Pratt, vice president and director, and John R. Suman, vice president and director, all of Humble Oil & Refining Co. of Houston, and L. I. Anderson, vice president and manager of Huasteca Petroleum Co. of Tampico, Mexico.

Mr. Sadler and his associates were guests of Tulsa oil men at a luncheon at the Tulsa Club. The visitors were also entertained by executives of Carter Oil Co. and Oklahoma Pipe Line Co.

Mr. Sadler referred to the completion of the Iraq Petroleum Co.'s lines to Tripoli, in French territory, and Haifa, in British controlled territory, which will have a minimum capacity of 84,000 bbls. a day. This oil will supplant crude now purchased by France, Italy, Germany and Great Britain from East Texas and Venezuela. He estimated that East Texas alone would lose a demand for 25,000 bbls. a day when the line is in operation at the end of the year.

Care and Operation of Orifice Meters

(Continued from Page 75)

understandable how a meter man, knowing full well the importance of the orifice plate and the precision used in grinding same, will haul them in the back of their car with entire disregard for the preservation of sharp edged orifices. It takes time and skill to grind a sharp edged plate and it takes eternal care to keep them sharp.

Due to the shape of the gas flow or what is known as velocity distribution curve as it approaches the orifice it is of prime importance that the plate be placed in the line concentric and that gaskets are in proper place. If the newer type of orifice fittings are used the meter man should be sure to loosen the jack screws in the bottom of the fitting before lowering the plate, and be sure the plate is on bottom before seating same. Plates should be inspected periodically, the interval between the inspections being governed by the tendency of the gas to gum or corrode the plate. Gummed or corroded plants cannot have sharp edges and cannot measure accurately.

In measuring liquids which do not have a tendency to gas it is safe to locate the taps on the side of the line. However, if there is danger of gassing the taps should be located on the bottom of the line and blowoff pots provided in order to remove any scale or solid matter which may crawl along the bottom of the line. If the liquids measured corrode the meter or piping, or have a tendency to emulsify mercury, a suitable seal should be used. Most of us have had a difficult task in convincing our companies that liquids could be measured accurately by means of the orifice meter. However, the students of the old school are being convinced of the accuracy of the orifice meter for this type of service and less opposition will be encountered as time goes on. The measurement of liquids into strapped tanks has proven to my satisfaction that if carefully made the results will be highly satisfactory.

Care should be taken to assure the correct chart is on each meter. Chart collectors become mechanical and for that reason are apt to install an incorrect chart day after day. Care should also be given the quality of chart. During the past depression years many chart users have purchased off-brand charts which are not punched concentric, have incorrect zero line or in other ways do not coincide with the correct calibration of the instrument. Errors in measurement introduced by the use of improper charts may be small in percentage, but quite often represent considerable money. This is especially true since the advent of the integrator which is of course calibrated to check the correct charts.

Gulf Coast Wildcats

(Continued from Page 61)

WEST COLUMBIA—BRAZORIA COUNTY

Miramar Oil Corp.'s No. 3 Hogg, 100 ft. N of No. 2 and 100 ft. from W line of lease. T.D. 5,360 ft.; P.B. 2,400 ft.; heaving shale 5,165 ft.; S.D.

Texas Co.'s No. 84 Hogg, 2,483 ft. N, 50 ft. W from SE cor. of lease in M. Varner Sur. T.D. 4,922 ft.; reamed 4,740-4,840 ft.

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Prod. Co.'s No. 3-B Gulf fee, 25 ft. out of SE cor. of lease.
T.D. 4,691 ft.; reaming 4,421 ft.

Mills Bennett Prod. Co.'s No. 9-B Wilburn, Henry Griffith league, 737 ft. E W line and 190 ft. S N line of lease.
Drlg. 3,950 ft.

Humble O. & R. Co.'s No. 6-B Kirby, 593 ft. N of S line, 388 ft. E of W line of lease, or 125 ft. N and 288 ft. W of No. 5.
Drlg. salt 3,951 ft.

Moody Corp.'s No. 5-A E. W. Barber, 100 ft. E of W line and 70 ft. N of S line of lease.
Drlg. salt 3,610 ft.

Moody Corp.'s No. 6-A Barber, 75 ft. W of E line and 400 ft. N of S line of lease.
Drlg. salt 2,834 ft.

Sinclair Prairie Oil Co.'s No. 18-A Wilburn, Henry Griffith league, 150 ft. W of No. 17-A and 14 ft. S N line of lease.
Drlg. hard sand 3,270 ft.

Sun Oil Co.'s No. 9 Chambers Co., 181 ft. W of No. 8 and 50 ft. from N line of lease. Top salt 1,279 ft.; T.D. 3,908 ft.; washing and prep. to set screen.

Sun Oil Co.'s No. 5 Higgins, 125 ft. W of No. 4.
T.D. 4,151 ft.; comp. 625 bbls., ¾-in. choke, T.P. 370 lbs., C.P. 530-lbs.

Sun Oil Co.'s No. 6 Higgins, 302 ft. W of E line and 432 ft. N of S line of lease.
Derrick.

Sun Oil Co.'s No. 10 Higgins, 50 ft. from N and W lines of lease.
Location.

Sun Oil Co.'s No. 22 Wilburn, midway betw. wells No. 17 and 21, or 150 ft. from each well.
Drlg. clay 100 ft.

Texas Co.'s No. 7 Wilburn, 116 ft. S of Humphrey's No. 8-H Kirby, in Henry Griffith league.
Drlg. lime 4,568 ft.

Texas Gulf Prod. Co.'s No. 8 A. E. Barber, 400 ft. S of N line and 50 ft. E of W line of lease.
Drlg. shaley lime 5,449 ft.

Texas Gulf Prod. Co.'s No. 2 Eberspacher, 480 ft. from S line and center of strip No. 4.
Drlg. rock 918 ft.

Yount Lee Oil Co.'s No. 24 Chambers County, 400 ft. W of No. 23 in line with No. 21.
T.S. 1,456 ft.; base salt 3,780 ft.; T.D. 4,026 ft.; comp. 190 bbls. daily, ¼-in. choke, 150 lbs. pressure, 3 per cent salt water.

Yount Lee Oil Co.'s No. 25 Chambers County, 75 ft. S. 50 ft. W of NE cor. of lease.
T.D. 1,003 ft.; W.O.C.

Yount Lee Oil Co.'s No. 26 Chambers County, 50 ft. N of S line and in line with Chambers Co.'s No. 2 and Sun's No. 9 Chambers.
Rigging up.

Yount Lee Oil Co.'s No. 27 Chambers, Co., 400 ft. W of No. 24 and in line with Nos. 24 and 21.
Derrick.

Yount Lee Oil Co.'s No. 7 Phillips, prep. to work over.
Drlg. shale 4,608 ft.

BLUE RIDGE—FORT BEND COUNTY

San Jacinto Oil Co.'s No. 4 Blakley, 2,460 ft. W of E line, 190 ft. S of N line of Edwards Drew Sur.
Drlg. 1,540 ft.

RABBS RIDGE—FORT BEND COUNTY

Gulf Prod. Co.'s No. 7-A Mary Gubble, 970 ft. S and 300 ft. W of NE cor. of 120-ac. tract No. 3, in Sam Kennedy Sur.
T.D. 929 ft.; W.O.C.

Gulf Prod. Co.'s No. 4 A. Hammerstrom, 2,900 ft. from N line, 4,100 ft. W of Brazos river, which is E line of Samuel Kennedy Sur.
T.D. 5,310 ft.; comp. 42 bbls. hr., ¾-in. choke.

Humble-Gulf's No. 28-A Lockwood & Sharp, 379 ft. from S line and 2,872 ft. from E line of "A" lease in J. Rabb Sur.
Derrick.

Humble-Gulf's No. 29-A Lockwood & Sharp.
Location.

Humble-Gulf's No. 28-D Lockwood & Sharp.
Location.

Humble-Gulf's No. 30-A Lockwood & Charp, 4,296 ft. W of E line and 293 ft. S of N line of lease in J. Rabb Sur.
Derrick.

Humble-Gulf's No. 31-A Lockwood & Sharp, 5,170 ft. W of E line and 292 ft. S of N line of lease in J Rabb Sur.
Derrick.

Humble-Gulf's No. 32-A Lockwood & Sharp, 6,391 ft. W of E line and 293 ft. S of N line of lease and 1,149 ft. W of No. 31-A in J. Rabb Sur.
Derrick.

Humble-Gulf's No. 33-A Lockwood & Sharp, 150 ft. W of E line and 293 ft. S of N line, being direct offset to Myers' No. 11 in J. Rabb Sur., Tract No. 2.
Location.

Humble-Gulf's No. 11 Meyers, 410 ft. W of E line of Myer 186-ac. tract and in center of tract being 292 ft. N of S line of John Rabb Sur.
Drlg. sandy lime 4,588 ft.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 40 Moore.
T.D. 3,651 ft.; S.D.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 4 Broussary & Orme, M. Dunman Sur., 129 ft. SW of No. 3.
Top salt 4,565 ft.; drlg. sand and shale 5,785 ft.

Yount Lee Oil Co.'s No. 41 Cade, Fitzsimmons Sur.
Drlg. hard shale and lime 4,152 ft.

Yount Lee Oil Co.'s No. 40 Cade, 420 ft. NW of No. 2-B, 360 ft. from E line of lease and in line with No. 39 and No. 2-B Fitzsimmons Sur.
Drlg. hard shale and lime 4,979 ft.

Yount Lee Oil Co.'s No. 22 Smith.
Drlg. sand 4,735 ft.

IMPORTANT BOOKS
for the Oil Man's Library

"THE WELDING ENCYCLOPEDIA"

A book that runs into eight editions must have more than the ordinary appeal, "The Welding Encyclopedia," compiled and edited by L. B. Mackenzie and H. S. Card, is now in its eighth edition and still in good demand. This fact in itself is as good a recommendation as can be given, but for those who may still be interested in securing a copy of this book the following review is prepared.

The book contains 465 pages and is fully illustrated. It is prepared in the form indicated by the title with every item that has to do with the welding art listed and described in alphabetical order. If the reader is interested in "Impact Bending Test," "Rego Thomas," "Aluminum" or any one of hundreds of other items dealing with this industry, they will be found in this book.

In the last half of the book electric arc welding and oxy-acetylene welding methods are discussed at length, followed by a chapter devoted to electric restance welding and another to thermit welding. Cutting, metals, boiler welding, pipe welding, structural steel welding and tank welding are all covered in separate chapters.

Then follow chapters devoted to training operators, and reproduction of the rules and regulations of the various regulatory bodies of national importance. The final chapters cover heat treatment of steel, and present charts and tables.

The book is just what the name implies, and will prove a helpful guide to the professional welder as well as to the layman who may desire to become informed on various phases of the welding art.

"The Welding Encyclopedia" may be purchased through the Book Department of The Oil and Gas Journal at the regular price of $5, express prepaid. A copy will be forwarded promptly upon receipt of remittance for that sum. If the order is not accompanied by payment, the book will be sent express c.o.d.

Yount Lee Oil Co.'s No. 24 Smith.
Sand 6,929 ft.; S.D.
Youn. Lee Oil Co.'s No. 42 Cade, N. Fitzsimmons Sur., half way between Nos. 26 and 28 and 150 ft. E at right angles.
Derrick.
Yount Lee Oil Co.'s No. 1 Maco Stewart, Martin Dunman Sur.
Rigging up.

ARRIOLA—HARDIN COUNTY

Republic-Houston's No. 2-X Arriola fee.
T.D. 6,290 ft.; W.O.C.
Republic-Houston Oil Co.'s No. 8 fee.
T.D. 4,577 ft.; W.O.C.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 110 Jordit, 300 ft. due S No. 109.
T.D. 1,484 ft.; swbd. S.W.; T.D. 1,426 ft.; comp. 8 bbls. oil and 129 bbls. water.
Rio Bravo Oil Co.'s No. 4 E. Jordit, 300 ft. due W of No. 109 Jordit.
Drlg. gumbo 353 ft.
Sinclair Oil Co.'s No. 1 Teel Estate, 3,685 ft. W of E line of league, 4,285 ft. S of N line of league, or 1,032 ft. S of N line and 717 ft. W of E line of 134-ac. tract.
T.D. 5,627 ft.; abnd.
Skinner Oil Co.'s No. 3 Sessler.
T.D. 2,180 ft.; abnd.

SOUR LAKE—HARDIN COUNTY

Alpha Pet. Co.'s No. 1 J. M. Weiss, 122 ft. S of Steinberger's No. 1 Weiss in Blk. 35.
T.D. 7,012 ft.; rigging up to swab.
Alpha Pet. Co.'s No. 2 Weiss estate, 66 ft. N and 100 ft. W from SE cor. of 5-ac. tract in Lot 26, H. Williams Sur.
Location.
Humble O. & R. Co.'s No. 1 Kirby et al, 140 ft. E W line and 300 ft. S N line of old Gulf 170-ac. tract. S. Jackson Sur.
T.D. 5,765 ft.; S.D.
Parr et al's No. 1 Benard, in W.C.R.R. Sur. No. 69 (west edge).
T.D. 7,061 ft.; P.B. 4,800 ft.; making est. 25 bbls. daily.
Steinberger Pet. Co.'s No. 1 Weiss, 150 ft. W of Parr No. 1 and 50 ft. out of SE cor. of Blk. 28, H. B. Williams Sur.
Location.
Texas Co.'s No. 309 fee, 302 ft. S and 48 ft. E of No. 308 fee, in Stephens Jackson League.
Drlg. plug, 1,849 ft.

GOOSE CREEK—HARRIS COUNTY

Herring's No. 1 Williams, 180 ft. from SE cor. and 55 ft. NE of Hybush's No. 3, in W. Scott upper league.
Cellar.
Humble O. & R. Co.'s No. 80 Simms-Smith.
Drlg. sandy shale 3,713 ft.
Humble O. & R. Co.'s No. 28 Sweet, 18 ft. W of SE cor. of Scott 2½-ac. tract and 53 ft. from N line of lease, Wm. Scott Sur. No. 67.
Location.
Jay Simmons' No. 1 Dannebaum, 45 ft. from S and 50 ft. from E lines of lease in W. Scott Labor Sur.
Derrick.

HUMBLE—HARRIS COUNTY

Imperator Oil Co.'s No. 1 N. N. Lee, 400 ft. from E line and 150 ft. from N line of 88-ac. tract in E. Ruhl Sur.
Drlg. salt water sand 3,170 ft.
Texas Co.'s No. 48 Stevenson, 485 ft. S and 359 ft. E of NW cor. of Lot No. 1-A, J. B. Stevenson Sur.
Drlg. shale and sand 1,915 ft.

PIERCE JUNCTION—HARRIS COUNTY

Benedum & Trees' No. 1 W. J. Settegast, 3,629 ft. from S line of Sur., and 100 ft. from E line of tract in the J. Kopman Sur.
T.D. 1,556 ft.; W.O.C.
Gulf Prod. Co.'s No. 10 H. C. Cain, 399 ft. S and 290 ft. E of NW cor. of lease and 217 ft. N of No. 9, 160-ac. tract in J. Hamilton Sur. No. 879.
T.D. 4,916 ft.; S.D.
Rio Bravo Oil Corp.'s No. 9-A Settegast, 1,575 ft. N line, 350 ft. E line NE cor. "A" lease, J. A. Kopman Sur.
T.D. 4,510 ft.; rigging up to work over; standing.
Rio Bravo Oil Corp.'s No. 12-A Settegast, 1,410 ft. N line, 650 ft. E line, J. A. Kopman Sur.
Drlg. hard shale 5,585 ft.

TOMBALL—HARRIS COUNTY

Amerada-Rycade's No. 1-A Metzler, J. House Sur.
Drlg. plug 1,867 ft.
Continental Oil Co.'s No. 2 Petrich, 1,900 ft. from S line and 157 ft. from E line of 50-acre tract.
Location.
Houston Oil Co.'s No. 1 Fred Heard, 335 ft. from N line and 691 ft. from E line of lease in J. M. Hooper Sur.
T.D. 5,578 ft.; D.S. test 10 min., 670 ft. oil, 85 lbs. pressure; W.O.C.
Humble-Magnolia's No. 2 C. F. W. Hendricks, 966 ft. S of N line and 466 ft. W of E line of 96-A. tract in Wm. Heard Sur.
T.D. 5,589 ft.; W.O.C.
Humble Oil & Ref. Co.'s No. 1 Christine Holderreith, 377 ft. from N line and 466 ft. from E line of most northerly NE cor. of 85-acre tract in J. House Sur.
Location.
Humble Oil & Ref. Co.'s No. 1 Kleb, 900 ft. from S line and 741 ft. from W line of 97-acre tract in W. Heard Sur.
Drlg. shale 4,772 ft.
Humble-Magnolia's No. 1 Krug, 600 ft. N and 187 ft. E from SW cor. of J. F. W. Kobs, 30.6-ac. tract in J. H. Edwards Sur.
Location.
Humble-Magnolia's No. 2 Krug, 466 ft. from E line of lease and 800 ft. S of S line of Sherer 112-ac. tract in J. H. Edwards Sur.
Location.
Humble & Magnolia Pet. Co.'s No. 2 E. J. Petrick, 700 ft. S of N line, 1,171 ft. W of E line of lease in J. M. Hooper Sur. No. A-372.
Drlg. shale 4,018 ft.
Humble O. & R. Co.'s No. 2-B M. A. Quilter, 466 ft. from N line and 330 ft. from W line of most northerly NW cor. of 300-ac. "B" lease.
T.D. 5,546 ft.; comp. 568 bbls. day, 340,000 ft. gas, ¼-in. choke.
Humble O. & R. Co.'s No. 1 F. Theis, 550 ft. from S line and 584 ft. from E line of 175-ac. tract in C. N. Pillot Sur.
T.D. 5,560 ft.; comp. 2,500,000 ft. gas.
Humble-Magnolia's No. 2 Jacob Theis, O. Goodrich Sur. No. A-811.
T.D. 5,572 ft.; W.O.C.
Sun and Humble O. & R. Co.'s No. 1 Metzler, 34 ft. N and E of NE cor. of 2-ac. graveyard in 90-ac. lease in C. N. Pillot Sur. No. 632.
T.D. 5,559 ft.; W.O.C.
Texas Co.'s No. 3 Hirsch, 466 ft. W of E line and 100 ft. N of S line of lease.
T.D. 990 ft.; W.O.C.

FANNETTE—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 15 Thomas, 200 ft. W of Gulf's No. 7 Burrell.
Derrick.

CLEVELAND—LIBERTY COUNTY

Gulf Prod. Co.'s No. 5-C Kirby, 944 ft. W, 500 ft. S of No. 4-C in the J. Pleasant Sur.
Rigging up.

ESPERSON—LIBERTY COUNTY

General Crude Oil Co.'s No. 3 Davis, 400 ft. N of No. 2, Joseph Kokernut Sur.
Abandoned.
General Crude Oil Co.'s No. 4 Davis, 400 ft. N of No. 3, Joseph Kokernut Sur.
Abandoned.
General Crude's No. 13 Moore's Bluff, 150 ft. W of E line and 2,100 ft. S of N line of lease and 1,000 ft. N of No. 12.
Drlg. 2,000 ft.
General Crude Oil Co.'s No. 8 Davis, 650 ft. from S and 1,000 ft. from E line of lease in D. Kokernut Sur.
T.D. 4,112 ft.; flowing by heads.
General Crude Oil Co.'s No. 9 Davis, 1,200 ft. each way from S and E lines of lease in D. Kokernut Sur.
Location.

HANKAMER—LIBERTY COUNTY

George Devore et al's No. 1 S. E. Exell, 175 ft. S of Gulf's No. 1 and 165 ft. from E line of 175-ac. lease in Levi Barrow Sur.
Derrick.
Mirimar Oil Co.'s No. 2 Crow & Jacobs, H. &T.C. Sur. No. 21.
Drlg. hard lime 5,582 ft.; no report.

HULL—LIBERTY COUNTY

Flynn's No. 2 Flynn, J. Devore Sur.
T.D. 1,500 ft. S.D.
Gulf Prod. Co.'s No. 104 Phoenix, 2,479 ft. from W line and 1,115 ft. from S line of 300-ac. tract in J. Devore Sur.
Sand 4,000 ft.; S.D.
Hanna Oil Co.'s No. 1-B Hanna, 50 ft. E line and 533 ft. S line of 20-ac. lease in J. Devore Sur.
Drlg. rock 775 ft.; no report.
Republic Prod. Co.'s No. 153 Dolbear, 400 ft. N and 45 deg E. from No. 151, in the J. Devore Sur.
Drlg. sand and shale 5,333 ft.; washing.
Republic Prod. Co.'s No. 155 Dolbear.
Spud.
Sun Oil Co.'s No. 3-A Carr, 234 ft. from N line and 563 ft. from W line of lease in J. Devore Sur.
Drlg. sandy shale 4,794 ft.
Sun Oil Co.'s No. 9-A Carr, 223 ft. from N line and 307 ft. from W line of lease in J. Devore Sur.
Derrick.
Texas Co.'s No. 9 Hannah, 250 ft. N and 200 ft. W of No. 5 Hannah.
T.D. 1,199 ft.; W.O.C.

LIBERTY COUNTY

Mrs. I. M. Lemon Oil Co.'s No. 1 Richardson, 120 ft. E of Gulf & Humble's No. 1 Carter, in M. G. White Sur.
T.D. 3,882 ft.; rerun tubing; standing.

MARKHAM—MATAGORDA COUNTY

Hamill & Hamill's No. 1 Hudson, SE side of dome.
T.D. 3,816 ft.; abnd.
Hawkins Oil Co.'s No. 1 Hawks fee, 1,350 ft. from N line and 1,650 ft. from E line of 20-ac. lease.
T.D. 600 ft.; W.O.C.
Powers Prod. Co.'s No. 3 N. R. Myers, 100 ft. from N and 150 ft. E. of SE¼ of Blk. No. 1.
T.D. 3,399 ft.; comp. 540 bbls., ⅝-in. choke, T.P. 335 lbs.
Powers Prod. Co.'s No. 4 Myers, in line with wells Nos. 1 and 2, being 250 ft. E of No. 2.
Location.
Rio Bravo Oil Co.'s No. 1 Sisk, 550 ft. N, 650 ft. W SE cor. of R. J. Sisk's 158-ac. tract in Lot 2, Wm. Haddon league.
T.D. 3,143 ft.; prep. to make D.S. test.

VAN VLECK—MATAGORDA COUNTY

Skelly Oil Co.'s No. 2 F. G. Cobb, 1,135 ft. E of W line and 2,515 ft. N of S line of F. G. Cobb lease in Marie Cummings Sur.
Moving in material.

CONROE—MONTGOMERY COUNTY

Alpha Pet. Co.'s No. 1 Hensley, 466 ft. from N and W lines of 25-acre lease in A. Steele Sur.
Location.
American Liberty Oil Co.'s No. 2 Allen.
T.D. 5,100 ft.; W.O.C.
Gulf Coast Drlg. & Prod. Co.'s No. 1 E. E. Hensley, 467 ft. from S line and 466 ft. from W line of lease in A. Steele Sur.
Drlg. 2,177 ft.
Gulf Coast Drlg. & Prod. Co.'s No. 2 J. L. Hensley, 667 ft. from No. 2 and midway between E and W lines of lease in A. Steele Sur.
Spud.
Gulf Coast Drlg. & Prod. Co.'s No. 4 J. L. Hensley, A. Steele Sur.
Drlg. 2,066 ft.
Gulf Coast Drlg. & Prod. Co.'s No. 29 Keystone Mills in T.&N.O. Sur.
Location.
Humble Oil & Ref. Co.'s No. 26 Keystone Mills.
Drlg. shale 4,460 ft.
Humble Oil & Ref. Co.'s No. 27 Keystone Mills.
Drlg. 5,000 ft. in shale.
Humble O. & R. Co.'s No. 39 Madeley.
T.D. 5,139 ft.; comp. 53 bbls. hour, ½-in. choke.
Humble O. & R. Co.'s No. 66-A South Texas Dev. Co.
T.D. 5,187 ft.; W.O.C.
Humble Oil & Ref. Co.'s No. 69-A South Texas.
Drlg. shale 5,363 ft.
Humble O. & R. Co.'s No. 42 Madeley.
Drlg. 3,210 ft.
Humble O. & R. Co.'s No. 8-D South Texas.
5,140 ft.; W.O.C.
Pine Tree Oil Co.'s No. 1 South Texas.
Shale 5,182 ft.; W.O.C.
Strake Oil Co.'s No. 1-B Dean, offset to Tide Water-Strake No. 8 Dean.
Location.
Strake Oil Co.'s No. 3 Hammond.
T.D. 5,170 ft.; abnd.
Sun Oil Co.'s No. 14 Keystone Mills, 1,760 ft. from N line, 2,274 ft. from W line of lease in A. Steele Sur.
T.D. 5,129 ft.; reaming to set csg.
Sun Oil Co.'s No. 2 South Texas, 943 ft. N of No. 1 and in center of lease E and W in T.&N.O. Sur. No. 5.
T.D. 5,136 ft.; P.B. 5,045 ft.; reaming 5,067 ft.
Texas Co.'s No. 18 Moody, N 60 deg., E 2,919 ft. N 30 deg. W 283 ft. from SW cor. of Ransom Sur. (workover).
T.D. 5,125 ft.; P.B. 5,080 ft.; ran screen and tubing.

ORANGE—ORANGE COUNTY

Trio Oil Co.'s No. 1 D. S. Comier, 69 ft. W of E line and 39 ft. S of N line of 6.83-ac. tract in W. M. Dyson Sur.
Rig up.

PORT NECHES—ORANGE COUNTY

Texas Co.'s No. 8 Kuhn, 1,320 ft. N and 250 ft. E of SE cor. of Mary E. Hall Sur. No. 2 in T. J. Notgrass Sur.
Derrick.
Texas Co.'s No. 2-B Polk, 695 ft. N, 150 ft. S of NE cor. of N. Jacob Beaumont Sur.
T.D. 6,708 ft.; sidetracking at 5,338 ft.

LIVINGSTON—POLK COUNTY

T. D. Humphries' No. 1 P. E. Ortop, 330 ft. from S and W lines of 40-acre tract in A. Viesca Sur.
Location.
T. D. Humphries' No. 1 J. C. Whitforth, Block H.
Derrick.
Kirby Pet. Co.'s No. 2 Kirby, 466 ft. from N and E lines of J. Stephenson Sur.
Location.
H. B. Owenby's No. 1 Duff, 78 ft. N of S line, 656 ft. W of E line of lease in A. Viesca Sur.
T.D. 4,350 ft.; S.D.
Werley et al's No. 1 Dick & Failing, 1,421 ft. W of E line and 330 ft. N of S line of tract in A. Viesca Sur.
T.D. 4,344 ft.; prep. to test; D.S. test 4,317-42 ft.; 15 min.; ¾-in. choke top and bottom; 20 fourbies oil, 2 fourbies mud cut with oil and fresh wtr.; 250 lbs. pressure. Spraying 10 to 15 bbls. daily; T.P. 1,500 lbs.; comp. 67 bbls. day; T.P. 1,545 lbs., C.P. 1,675 lbs.

GRETA—REFUGIO COUNTY

Atlantic & Stanolind's No. 64 J. M. O'Brien, 466 ft. E line of lease and 932 ft. N of Winfield Sur. No. 83.
Drlg. 4,378 ft., shale.
Floboots Oil Co.'s No. 3 E. O'Brien, 466 ft. from S line and 503 ft. from E line of E. H. Winfield Sur., Block 11.
Drlg. shale 130 ft.
Floboots Oil Co.'s No. 4-E O'Brien, 466 ft. from S line and 503 ft. from E line of Winfield Sur., Block No. 22.
Rigging up.
Floboots Oil Co.'s No. 3-F O'Brien, 466 ft. from S and E lines of Block No. 25 in Peoples Survey.
Drlg. shale 1,981 ft.
Hewitt & Dougherty's No. 8 Lambert, 460 ft. from N line and 507 ft. from E line of Blk. 18, E. W. Harper Sur.
Drlg. shale and lime 2,770 ft.
Hewitt & Daugher.y's No. 9 M. F. Lambert, 466 ft. from N line and midway between E and W lines of Blk. 16, Hardwick Sur.
Rigging up.
Hewitt & Dougherty's No. 23 M. F. Lambert, 466 ft. from S line and 507 ft. from E line of Blk. 16, Hardwick Sur.
Drlg. shale 2,317 ft.; no report.
Houston Oil Co.'s No. 15 Heard, 660 ft. SE of No. 14 and 330 ft. NE of S line of lease.
Drlg. sticky shale 1,561 ft.
Houston Oil Co.'s No. 16 F. B. Rooke, from SE cor. of lease 806 ft. N along E line, thence 150 ft. W at R/A in Mullin Sur.
Drlg. 3,560 ft.
Houston Oil Co.'s No. 6 M. H. Ryals, 1,050 ft. from N line and center of E and W lines of lease.
T.D. 3,777 ft.; S.D.
Humble O. & R. Co.'s No. 5 Fannie Heard, 1,490 ft. from S line, 450 ft. from W line of 337-ac. tract in Crunk Sur.
T.D. 4,355 ft.; comp. 430 bls. day, ⅝-in. choke, T.P. 800 lbs., C.P. 1,150 lbs.
Humble Oil & Ref. Co.'s No. 6 Fannie Heard, 1,499 ft. N line and 503 ft. W line of 337-acre tract in Ximines Sur.
Location.
Humble O. & R. Co.'s No. 4 Fannie Heard, 1,216 ft. from E line, 466 ft. from N line of lease in Ximines Sur.
Drlg. sand 5,943 ft.
Humble O. & R. Co's No. 7 J. F. B. Heard, 1,107 ft. N and 466 ft. from W line of 500-ac. lease in Peoples Sur.
T.D. 4,389 ft.; comp. 950 bbls. day, ⅝-in. choke; T.P. 250 lbs., C.P. 630 lbs.
Humble O. & R. Co.'s No. 8 J. F. B. Heard, 933 ft. N of No. 6 and 933 ft. E of No. 3, in Peoples Sur.
Drlg. shale 3,270 ft.
Humble Oil & Ref. Co.'s No. 9 J. F. B. Heard, 838 ft. N of No. 8 and 1,399 ft. E of lease line in Peoples Sur.
T.D. 1,221 ft.; W.O.C.
Stanolind O. & G. Co.'s No. 3-A J. M. O'Brien, Peoples Sur., begin at NE cor. of "A" lease, thence W along N line 1,509 ft.; thence S at right angles 466 ft.; S offset to No. 4-B.
S.D. 4,384 ft.
United Prod. Co.'s No. 15 Fox, 330 ft. W of No. 2-A in Wm. Hews and L. Brown Sur.
T.D. 5,831 ft.; S.D.
United Prod. Co.'s No. 7 Wilson Heard, 231 ft. S of No. 5.
Drlg. shale 2,840 ft.
United Prod. Co.'s No. 8 Wilson Heard, 1,079 ft. SE from most northern point along NE boundary line of lease, thence 330 ft. SW at right angles.
Derrick.
United Prod. Co.'s No. 8 Lambert.
T.D. 4,382 ft.; S.D.
United Prod. Co.'s No. 8 J. A. Lambert, 855 ft. N of NW cor. of W. Heard tract and 150 ft. W of tract line.
O.T.D. 3,584 ft.; drlg. 4,303 ft.
United Prod. Co.'s No. 9 Lambert, 466 ft. S line and 507 ft. E line of Blk. 17, H.& D. Subd. of Hardwick Sur., Abst. 159.
T.D. 4,438 ft.; W.O.C.

O'CONNOR—REFUGIO COUNTY

Humble Oil & Ref. Co.'s No. 15 O'Connor, N 60 deg. W 923 ft. of No. 4 in Keeling Sur.
Derrick.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 2 Mrs. A. Draeger, 1,200 ft. E of W line and 800 ft. N of S line of 205-ac. tract in J. F. Perry Sur.
Rigging up.
Sun Oil Co.'s No. 9 Janner.
Coring sandy shale 1,052 ft.

SOUTH LOUISIANA FIELDS

BLACK BAYOU—CAMERON PARISH

Brownie Babbette Oil Co.'s No. 1 R. A. Moore, 562 ft. W, 50 ft. S of NE cor. of E½ of SE Sec. 18-12s-12w.
Prep. to work over; T.D. 6,642 ft.; drlg. shale 6,610 ft.
Shell Pet. Corp.'s No. 3 State.
T.D. 6,002 ft.; P.B. 4,670 ft.; running whipstock.
Shell Pe.. Corp.'s No. 18 Watkins.
Building derrick.
Shell Pet. Corp.'s No. 19 Watkins fee, 1,260 ft. S. 2,185 ft. W of NE cor. Sec. 18-12-12.
Drlg. sandy shale 2,305 ft.

BOSCO—ACADIA AND ST. LANDRY PARISHES

Humble O. & R. Co.'s No. 1 Joseph Berb, located on 100-ac. tract lease in Sec. 21-8s-3e, about a mile and a half NW of the producer.
Location.
Shell Pet. Corp.'s No. 1 E. M. Eliaboutrout, in Sec. 22-8s-3e, 1½ miles due N of discovery well.
Location.
Oswego Oil Co.'s No. 1 Joseph Mouton.
T.D. 1,895 ft.; S.D.
Superior Oil Co.'s No. 1 J. Sidney Arceneaux et al, 1,665 ft. N and 439 ft. W of SE cor. of Sec. 3-8s-3e.
Drlg. sand 3,461 ft.
Superior Oil Prod. Co.'s No. 1 Mrs. Estelle Comeaux and others' 675.6 ft. W and 511.4 ft. S of NE cor. of Sec. 34-8s-3e.
Rigging up.
Superior Oil Producing Co.'s No. 1 Sidney Fail, 542.9 ft. W and 511.4 ft. N of SE cor. Sec. 27-8s-3e.
Moving in material.
Superior Oil Prod. Co.'s No. 1 Eddie Prejean (Alex Forrestier), 2,021.3 ft. W and 439.4 ft. S of NE cor. of Sec. 34-8s-3e.
Derrick.
Superior Oil Co.'s No. 1 Leo E. Kahan et al, 2,381 ft. N and 468 ft. W of SE cor. of Sec. 33-8s-3e.
Drlg. hard sand 7,202 ft.
Superior Oil Prod. Co.'s No. 1 Walter V. Larcade, 462.4 ft. N and 500.2 ft. S of NW cor. of Sec. 35-8s-3e.
Bldg. derrick.
Superior Oil Prod. Co.'s No. 1 Euclide LeBlanc, 1,873 ft. S and 673.2 ft. W of NE cor of Sec. 33-8s-3e.
Foundation.
Superior Oil Prod. Cor.'s No. 1 Lucien Lavergne, 596 ft. E and 330 ft. N of SW cor. of Sec. 27-8s-3e.
Moving in material.
Superior Oil Prod. Co.'s No. 1 Moise Lavergne, 269.7 ft. W and 98 ft. N of SE cor. of Sec. 28-8s-3e.
Moving in material.
Superior Oil Prod. Co.'s No. 1 Auguste Martinez, 2,510.6 ft. S and 1,057.2 ft. W of NE cor. of Sec. 35-8s-3e.
Drlg. sand and clay 180 ft.
Superior Oil Co.'s No. 1 Leoanstie Richard, 2,378 ft. S and 466 ft. W of NE cor. of Sec. 34-8s-3e.
Drlg. 5,070 ft.
Superior Oil Prod. Co.'s No. 1 Leonard Savoie, 814 ft. W and 658 ft. N of SE cor. Sec. 26-8s-3e.
Rigging up.
Superior Oil Co.'s No. 1 Marcellus Savoie, 2,201 ft. S and 761 ft. W of NE cor. of Sec. 27-8s-3e.
Drlg. 5,078 ft.

CAILLOU ISLAND—TERREBONNE PAR.

Texas Co.'s No. 10 State-Caillou Island (workover).
T.D. 6,142 ft.; comp. 2,429 bbls. P.L. oil daily through ½-in. choke.
Texas Co.'s No. 12 State Caillou Island, 2,420 ft. E and 72 ft. S of NW cor. of Sec. 20-23s-20e.
Drlg. water sand 1,235 ft.
Texas Co.'s No. 13 State Caillou Island, 500 ft. SW of No. 11 well.
T.D. 3,983 ft.; W.O.C.

CALCASIEU LAKE—CAMERON PARISH

Texas Co.'s No. 10-A State, 16,855 ft. W and 3,270 ft. N of NE cor. Sec. 1-14s-9w in Twp. 13s-9w.
Drlg. cap rock 6,483 ft.

CAMERON MEADOWS—CAMERON PAR.

Burton Sutton Oil Co.'s No. 1 School Land. T.D. 4,381 ft.; comp. 125 bbls. day, ¼-in. choke.

Burton-Sutton Oil Co.'s No. 4 School Land. 2,891 ft. W and 150 N of SE cor. of Sec. 16-4s-13w. Derrick.

Humble O. & R. Co.'s No. 8 Cameron Meadows. 2,895 ft. W, 150 ft. S of NW cor Sec. 21-14s-13w. T.D. 5,548 ft.; P.B. 4,548 ft.

Humble O. & R. Co.'s No. 1-B Cameron Meadows. 250 ft. W and 2,640 ft. S of NE cor. of Sec. 24-14s-14w. Drlg. shale 6,360 ft.

Texas Co.'s No. 1 Miami Corp. Drlg. hard sand; slight show oil, 5,071 ft.

CHOCTAW FIELD—IBERVILLE PARISH

Standard Oil Co. of Louisiana's No. 6 Myrtle Grove Wilbert, Sec. 52-9s-11e. Drlg. shale 3,874 ft.

DOG LAKE—TERREBONNE PARISH

Texas Co.'s No. 16 State Dog Lake, 25 ft. N of No. 1 in Sec. 6-22s-16e. Drlg. sand showing oil 1,866 ft.

EDGERLY—CALCASIEU PARISH

Union Sulphur Co.'s No. 2 Hunter, 1,366 ft N 425 ft. W of SE cor. SW Sec. 21-9s-11w Drlg. gumbo 2,529 ft.; no report.

FOUR ISLAND—TERREBONNE PARISH

Texas Co.'s No. 6 State, Four Island. Dredging canal.

Texas Co.'s No. 7 State, Four Island. Dredging canal.

GARDEN ISLAND—PLAQUEMINES PAR.

Texas Co.'s No. 11 Garden Island, 4,191 ft S and 1,504 ft. W of NE cor. Sec. 107-23s-32e. Sidetracking anhydrite 1,814 ft.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 6, Alliance Trust, 667 ft E, 1,787 ft. S line of lease, Sec. 34-11s-1w T.D. 7,982 ft.; S.D.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 2 Hanszen, 400 ft W and 200 ft. S of No. 1 in Sec. 14-12s-10w T.D. 6,462 ft.; standing.

H. E. Dawton's No. 1 Kaugh. Derrick.

Gulf Prod. Co.'s No. 14-A Irwin, 300 ft. SE of No. 13-A. T.D. 6,990 ft.; W.O.C.

Wilfred LaHay's No. 1 Roux, Sec. 36-12s-10w. Shale 3,986 feet.; S. D.

Sutton Oil Co.'s No. 1 Cortier, 2,930 ft. W and 1,220 ft. N of SE cor. of Sec. 23-12s-10w. Drlg. 2,800 ft.

Texas Co.'s No. 12-B State, 500 ft. SE of No. 10-B or 1,360 ft. E and 149 ft. S of NE cor. of Sec. 13-12s-10w. Rig up.

Union Sulphur Co.'s No. 1 Barbee est., 1,720 ft. N line, 320 ft. E of SW cor. Sec. 12-12s-10w. T.D. 7,986 ft.; sidetracking 5,696 ft.

Union Sulphur Co.'s No. 9 Humble, 300 ft. E and slightly N of No. 1 well, or 830 ft. N and 270 ft. E of the SW cor. of Sec. 12-12s-10w. T.D. 6,000 ft.; salt; P.B. 5,380 ft.; W.O.C.

NEW IBERIA—IBERIA PARISH

G. D. Spell's No. 1 Sadiator, 25 ft. NW of No. 1 in A. B. Bernard Sur., Sec. 54. Location.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Barnsdall Oil Co.'s No. 2 Caffal. Drlg. sandy shale 6,679 ft.

Barnsdall Oil Co.'s No. 6 Fontenot, 320 ft. from N and W lines of lease in Sec. 7-9s-6w. Drlg. sandy lime 6,540 ft.

Magnolia Pet. Co.'s No. 2 Gillison, 990 ft. W and 200 ft. N of SE cor. of lease in Sec. 12-9s-7w. T.D. 6,996 ft.; sand, show oil; prep. to set screen.

Magnolia Pet. Co.'s No. 7 Walt. T.D. 6,935 ft.; set 7-in. csg.

Shell Pet. Corp.'s No. 2 Ardoin. T.D. 7,337 ft.; P.B. to 7,020 ft.; W.O.C., 6,997 ft.

Shell Pet. Corp.'s No. 8 Fontenot, 330 ft. out of NE cor. of lease. Set surface csg. 1,809 ft.

Shell Pet. Corp.'s No. 8 Heyd. T.D. 7,269 ft.; to P.B. to 6,695 ft.

Shell Pet. Corp.'s No. 2 C. L. Johnson, 330 ft. out of SE cor. of 80-ac. lease, and offset to Magnolia's No. 6 B. T. Walt. T.D. 1,804 ft.; set 10¾-in. csg.

Shell Pet. Corp.'s No. 1 Scott, 230 ft. out of NW cor. of lease. Rigging up.

Shell Pet. Corp.'s No. 5 Stratford. Waiting on derrick.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 14 Housierre-Latrielle, 260 ft. N of No. 13, Sec. 47-9s-2w. Drlg. shale 1,740 ft.; no report.

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 10 L.L.&E., 4,543 ft. S. 503 ft. W of NW cor. Sec. 30-21s-20e. T.D. 3,690 ft.; S.D.

Texas Co.'s No. 11 L.L.&E., Sec. 30-21s-20e. Drlg. lime rock 3,760 ft.

Texas Co.'s No. 24 Lake Barre. Sidetracking 3,354 ft.

Texas Co.'s No. 26 Lake Barre, 150 ft. N from No. 22, Sec. 30-21s-20e. T.D. 1,335 ft.; W.O.C.

LAKE PELTO—TERREBONNE PARISH

Texas Co.'s No. 11 Lake Pelto. 1,600 ft. SW of No. 5. Drlg. rock 5,065 ft.

Whitestone O. & G. Co.'s No. 1 Buckley, 300 ft. S and E of NW cor. SW SW Sec. 35-19s-16e. Drlg. sand 3,408 ft.

LEESVILLE—LAFOURCHE PARISH

Robert Bowles' No. 1 Crosby. T.D. 4,525 ft.; P.B. 1,800 ft.; W.O.C.

Emerald Pet. Corp.'s No. 4 State of Louisiana. Drlg. 4,400 ft.

Robert Bowles' No. 2 Crosby. Derrick.

Emerald Pet. Corp.'s No. 5 State of La. 1,878 ft. N of No. 1 well in Sec. 26-21s-22e. T.D. 3,692 ft.; comp. 60 bbls. hr.

Emerald Pet. Corp.'s No. 7 State of La. 1,078 ft. N of No. 1. Derrick.

Emerald Pet. Co.'s No. 8 State of La., 455 ft. N of No. 1. Rigging up.

Emerald Pet. Co.'s No. 9 State of La., 600 ft. S of No. 1. Derrick.

Emerald Pet. Co.'s No. 10 State, west bank, 300 ft. S of well No. 1. Location.

Emerald Pet. Co.'s No. 11 State, east bank. 227 ft. N of well No. 1. Location.

Emerald Pet. Co.'s No. 12 State, east bank. 250 ft. S of well No. 1. Location.

Gulf Prod. Co.'s No. 2 Allen Land. T.D. 3,726 ft.; comp. 200 bbls. day, ⅝-in. choke.

Gulf Prod. Co.'s No. 4 Allen Land. Drlg. shale 3,190 ft.

Gulf Prod. Co.'s No. 6 Bernard, 15 ft. N and 85 ft. E of NW cor. of Lot No. 4, Sec. 26-21s-22e. Rigging up.

Frank L. Hill's No. 1 Bernard, 1,422 ft. N and 808 ft. E of SW cor. Sec. 26-21s-22e T.D. 3,640 ft.; W.O.C.

Lincoln Oil Co.'s No. 1 Constantine. Coring sand 4,522 ft.

Lincoln Oil Co.'s No. 1 Visier. (W.O.). Sand 3,878 ft.; swabbing.

Prince Oil Co.'s No. 2 Deramee & Nicol. T.D. 3,678 ft.; comp. 830 bbls. day through two ¼-in. choke.

Texas Co.'s No. 19 L.L.&E., Sec. 27-21s-22e Drlg. shale 3,641 ft.

Texas Co.'s No. 20 L.L.&E., Sec. 27-21s-22e Rigging up.

Texas Co.'s No. 21 L.L.&E. Location.

Texas Co.'s No. 22 L.L.&E. Drlg. shale 3,415 ft.

Texas Co.'s No. 26 L.L.&E. Location.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet. Co.'s No. 12 Bordages, 960 ft. W and 93 ft. N of SE cor. N½ NE Sec. 8-10s-19w. Rigging up.

Magnolia Pet. Co.'s No. 32 Miller, 925 ft. E, 480 ft. S of NW cor. of S½ of NW of Sec. 9-10s-9w. T.D. 4,374 ft.; pulling tubing.

Magnolia Pet. Co.'s No. 34 Miller, Sec. 9-10s-9w. Drlg. shale 3,796 ft.; no report.

Strake Pet. Co.'s No. 1 Moss, 575 ft. S and 70 ft. W of NE cor. of SW NW Sec. 8-10s-9w. Drlg. 3,000 ft.

Union Sulphur Co.'s No. 1 Farquaher, 200 ft. S and W lines, NE cor. SW SE Sec 36-12s-10w, 2-ac. tract. T.D. 7,461 ft.; sidetracking 4,435 ft.

Union Sulphur Co.'s No. 6 Moss, between No. 2 and No. 5. Drlg. shale 6,419 ft.; no report.

PORT BARRE—ST. LANDRY PARISH

Gulf Ref. Co.'s No. 6 Wilson-Cochran. Sand 3,049 ft.; fishing.

Phillips Pet. Co.'s No. 1 Sibille, 3,063 ft. S from R.R. along W line of Sibille Co., Inc., 180-acre tract and 50 ft. E in Sec. 7-6s-6e. Location.

Texas Co.'s No. 21 Botney Bay, 2,400 ft. S. 8 deg. W of most southerly NE cor. of Botney Bay 562-ac. tract, thence 600 ft. N, 82 deg. W. at R/A. Location.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 26 United Land. Drlg. shale 5,525 ft.

STARKS—CALCASIEU PARISH

Gulf Ref. Co.'s No. 35 Lutcher Moore, Sec. 19-9s-8w. T.D. 3,604 ft.; comp. 317 bbls. 8 hrs., ¾-in. choke, T.P. 365 lbs., C.P. 425 lbs.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 776 fee. Drlg. salt 4,892 ft.

Union Sulphur Co.'s No. 788 fee, 602 ft. S 1,209 ft. W of C Sec. 29-9s-10w. S D. 6,103 ft.

Union Sulphur Co.'s No. 794 fee. Drlg. 5,097 ft.

Union Sulphur Co.'s No. 795 fee. Setting 9⅝-in. csg. at 1,248 ft.

Union Sulphur Co.'s No. 796 fee. Salt 2,317 ft.; setg whipstock to sidetrack.

Union Sulphur Co.'s No. 797 fee, 1,682 ft W, 418 ft. N of C of Sec. 29-9s-10w. Coring oil sand 3,396 ft.

Union Sulphur Co.'s No. 798 fee, 673 ft. N. 575 ft. W of C Sec. 29-9s-10w. T.D. 3,152 ft.; prep. to set screen.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 13 Yount Lee fee, 800 ft. S of No. 11, in line with Nos. 9 and 10. Sec. 12-13-3w. T.D. 7,439 ft.; prep. to start up.

VINTON—CALCASIEU PARISH

Gulf Ref. Co.'s No. 9 Gardner, 572 ft. E and 159 ft. N from SW cor. of SW SE Sec. 33-10s-12w. T.D. 3,330 ft.; prep. to put on pump.

Gulf Ref. Co.'s No. 72 G. N. G., 643 ft. E. 50 ft. S. NW cor. NE SE Sec. 33-10s-12w T.D. 3,170 ft., sand; prep. to put on pump.

Tri-Oil Co.'s No. 1 Matilda Gray, 38 ft. W. 35 ft. N of SE cor. NE SW NE Sec. 33-9s-12w. T.D. 3,535 ft.; prep to deepen.

Vinton Pet. Co.'s No. 2 Mathilda Gray, 100 ft. N of No. 1 and in Sec. 33-10s-12w. (W.O.); sidetracking 3,220 ft.

Wilson Broach's No. 5 Wilson. T.D 3,277 ft.; rewashing.

WHITE CASTLE—IBERVILLE PARISH

Shell Pet. Corp.'s No. 9 Wilburn. T.D. 2,207 ft.; prep. to ream.

MISCELLANEOUS WILDCATS

TEXAS

ANGELINA COUNTY

Thayer et al's No. 1 Dearmond, J. T. Peavy Sur., 2½ miles SE of Zavalla. Hard lime 1,915 ft.; T.D.; F.A.

AUSTIN COUNTY

I.T.I.O. and Johnson Bros.' No. 1 August Wrangler, 450 ft. out of N cor. of Wrangler 132-ac. tract in Adam Kuykendall Sur. Spud.

BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 1 Houston Farm Dev. Co., 1,414 ft. N, 316 ft. W of SE cor. of L. Bacheider Sur. T.D. 4,415 ft.; S.D.

C. & R. Dev. Co.'s No. 1 National Life Co., 340 ft. from W line and 340 ft. from N line of 100-ac. tract out of west end Nos. 3 and 4 in Henry Austin League No. 4. Abst. No. 13. Rigged up; S.D.

Jack Clark tr.'s No. 1 J. M. Spear, 150 ft. from N line and 150 ft. from W line of Lot 4, in Pinckney Sur. Drlg. shale 4,800 ft.

Danciger O. & R. Co.'s No. 4-A Hunt, skidded 200 ft. SW of No. 3-A in W. C. Carson Sur. Drlg. shale 3,700 ft.

Danciger Oil & Ref. Co.'s No. 1 Stark-Brown 330 ft. out of most easterly NE cor. of lease in Perry & Austin Sur. Drlg. shale 6,650 ft.

Gillock Pet. Co.'s No. 1 Frank Truksa, 200 ft. from S and 1,000 ft. from E lines of 75-ac. tract, Sec. 7, H.T.&B.R.R. Sur. Rig up.

Harrison & Abercrombie's No. 1 Bernard River Land, 1,000 ft. each way out of SE cor. of Lot No. 23. Rigging up.

Holt et al's No. 1 Griffith, J. B. Bailey Sur. T.D. 4,200 ft.; waiting orders.

BRAZOS COUNTY

M. S. Broach's No. 1 Buck Wallace, 1,000 ft. from S line, 400 ft. from W line of 251-ac. tract in G. W. Singleton Sur. T.D. 369 ft.; trying to pull 7-in. csg.

F. H. Scott's No. 1 Klintworth, I. Curd Sur., 300 ft. from N line, 400 ft. from E line. T.D. 2,500 ft.; temp. abnd.

BURLESON COUNTY

Southern Seaboard Co.'s No. 1 J. H. Coulter, 9,400 ft. from SW line and 2,200 ft. from NW line of 1,176-ac. tract in SE cor. of county in A. Kennon Sur. T.D. 500 ft.; W.O.C.

CALHOUN COUNTY

Continental Oil Co.'s No. 1 American Nat. Realty Co., C of NE of Sec. 6, Blk. C. T.D. 5,760 ft.; P.B. 5,400 ft.; reaming.

Herman Heep's No. 3 Welder. Derrick.

J. H. Meek et al's No. 1 R. Adamans, C of NW line of Sec. 45, 2½ miles NE of McCamey. Spud.

CHAMBERS COUNTY

Turnbull & Irwin's No. 1 Sudindorf, center of W line of 483-ac. tract, H.&T.C. Sur. No. 67, due E of Analuac. Drlg. sand 4,613 ft.

COLORADO COUNTY

Coyle-Concord Oil Co.'s No. 1 Nelson, 3,200 ft. SE of NW cor. of Sec., 2,200 ft. SW at right angles in I.&G.N. Sur. T.D. 4,052 ft.; R.U. and S.D.

Quintana Pet. Co.'s No. 1 M. A. Olmstead, 457 ft. N 66 deg. 20 ft. E along S line from SW cor. of 129-ac. tract and 425 ft. NW at right angles in M. Baton Sur. Drlg. shale 2,200 ft.

FAYETTE COUNTY

Colorado Oil Co.'s No. 1 Anders. T.D. 2,820 ft.; S.D.

FORT BEND COUNTY

Gem Oil Co.'s No. 1 Farmer, 330 ft. out of NE cor. of Robt. Hodges Sur., on 200-ac. tract. Drlg. shale 5,410 ft.

Mills Bennett's No. 1 Luschner, 3,720 ft. from N line of survey and 550 ft. from W line of lease in T. Habermachner Sur. T.D. 4,492 ft.; P.B. 3,950 ft.; flowing 100 bbls. day by heads, ⅝-in. choke, 14 per cent water.

Joe Moffat's No. 1 Blakly, 100 ft. from N and W lines of Lot 4, Blk. C. T.D. 517 ft.; abnd.

J. E. Seiber's No. 1 J. B. Farmer, 150 ft. out of most southerly cor. of 50-ac. tract in Jas. Scott Sur. T.D. 4,425 ft.; D.S. test 4,400-25 ft.; 26 fourbles oil, 10 min., ¼-in. choke; drlg. plug.

W. A. Shafer et al's No. 1 V. B. Bortash, 693 ft. SW of NE line and 1,003 ft. NW of SE line of Sec. 52, H.&T.C. Sur. Drlg. 150 ft.

Vico Oil Co.'s No. 1 H. R. Darst, 5,690 ft. N of S line and 685 ft. W of E line of E. Powell Sur. Derrick.

Wilks et al's No. 1 Norris, 300 ft. W and 1,352 ft. S of N cor. of 525-ac. tract (5 miles S of Needville). Rigged up and S.D.

GALVESTON COUNTY

George K. Spoor's No. 1 Maco Stewart, 1,626 ft. N of SE cor. of Alex Farmer Sur., and 1,175 ft. E in W. K. Wilson Sur. (4 miles S of Dickinson). T.D. 6,577 ft.; reinforcing derrick; S.D.

Humble O. & R. Co.'s No. 1 Maco Stewart, C of E and W lines of 400-ac. tract in John Sellars Sur., S. of Dickinson Bayou 3 miles N of Spoor well. Drlg. 7,050 ft.

GRIMES COUNTY

Dr. Marshall et al's No. 1-B Todd, 300 ft. from E line and 175 ft. from N line of 150-ac. tract in extreme NW cor. of county (25 ft. N of No. 1). Laying water line.

W. D. Roan et al's No. 1 D. C. Kelly, 1,532 ft. from N line and 168 ft. from E line of U. Sanders Sur., near Carlos. T.D. 85 ft.; S.D.

J. H. Woodward et al's No. 1 O. A. Hamilton, center of Hamilton 96.5-ac. tract 9 of Richards in the O. Hill Sur. Drlg. shale 2,100 ft.

HARDIN COUNTY

Wilcox O. & G. Co.'s No. 1 Sternberger, 1,328 ft. N of S line and 1,311 ft. W of E line of C. Dorsey Sur. No. 1. T.D. 5,590 ft.; W.O.C.

HARRIS COUNTY

Emerald Pet. Co.'s No. 1 Griffith. T.D. 4,615 ft.; abnd.

C. C. Foster and others' No. 1 H. K. Johnson, 2,000 ft. from S line and center of E and W lines of G.C.&S.F. Sur. Spud and drlg. water well.

General Crude Oil Co.'s No. 1 Rorick est., 5,606 ft. S of N line of survey and 1,546 ft. W of E line of 1,426-ac. tract in John C. Ogburn Sur. Drlg. 4,024 ft.

H. H. Givans' No. 1 F. B. Bender, 2,640 ft. from S line and 4,860 ft. from E line of Geo. Fisher Sur. S.D. at 335 ft.

Imperator Oil Co.'s No. 1 Brooks est., 7,400 ft. S and W of NE cor. of R. & R. Vince Sur. Drlg. water well.

Loring Oil Co.'s No. 1 Westmoreland, Lot 3, Blk. 33, Westmoreland Add. T.D. 6,031 ft.; to deepen.

W. U. Paul's No. 1 E. M. House, 2,200 ft. N and 1,000 ft. E of NE cor. of E. Benson Sur. in M. Magruder Sur. Set 10-in. at 1,000 ft.; S.D.

Southland Oil Co.'s No. 1 Galvey, SE cor. Sec. 4, Blk. 1, E.&T.C. Sur. Coring shale 2,200 ft.

Texas-New York Dev. Co.'s No. 1 Ralson, 525 ft. from W line and 325 ft. from S line of Lot No. 12 in J. W. Moody Sur. T.D. 1,538 ft.; W.O.C.

JACKSON COUNTY

Encio Gas Co.'s No. 1 J. H. Drummond, 330 ft. out of most easterly NE cor. of Drummond 499-ac. tract. Coring 5,525 ft.

Encio Gas Co.'s No. 1 Seidel & Simmons, 150 ft. from SW line or 300 ft. NE at right angles from No. 1 Toney, in Raymond Musquiz Sur. Drlg. broken sand and shale 5,650 ft.

Imperator Oil Co.'s No. 1 Dutton, S center of Lot No. 11, Blk. 25, 450 ft. S of R.R. and 1,350 ft. W line of townsite, Ray Muskins Sur. Rigged up and S.D.

Phillips Pet. Co.'s No. 1 State Realty, 1,000 ft. SW and 466 ft. NW of most easterly E cor. of Vanderbilt townsite, in Blk. 95, R. Muskuiz Sur. Derrick.

Turman Oil Co.'s No. 1 T. H. Miller, 150 ft. each way out of E 50 acres of Miller 100-ac. tract in Ray Musquiz Sur. Location.

JEFFERSON COUNTY

Gulf Prod. Co.'s No. 3 L. W. Junker, 700 ft. W, 350 ft. S of NE cor. of 260-ac. tract in W. H. Smith League. Drlg. sandy shale 4,370 ft.

Magnolia Pet. Co.'s No. 1 E. Herbert Trust, 990 ft. N, 330 ft. E of SW cor. of P. H. Bell Sur. No. 2. Rigging up.

Sun Oil Co.'s No. 1 H. Long, 1,500 ft. N line, 990 ft. E line of lease. Drlg. water sand 7,834 ft.

Turnbull & Irwin's No. 1 Tolivar, 1,900 ft. from N line and 1,400 ft. from W line of NW cor. of Shadric Morris Sur. Drlg. gumbo and shale 400 ft.

LIBERTY COUNTY

R. M. Bruner et al's No. 1 N. Bell, 150 ft. from N line and 150 ft. from W line of Bell's 187-ac. tract, H.&T.B. Sur. No. 4. Location.

Extension Oil Co.'s No. 1 J. A. Lovett, 200 ft. from E and 600 ft. from S line of lease, P. P. Deevers Sur. Drlg. hard lime 2,830 ft.

Liberty-Independent Oil Co.'s No. 1 J. M. Neal, 3,550 varas from E line and 500 varas from N line of Samuel Strong Sur. Drlg. shale 2,700 ft.

Magnolia Pet. Co.'s No. 1 Maco Stewart, 2,500 ft. E and 1,370 ft. S of NW cor. of 350-ac. tract in A. Cherry Sur. Rigging up.

A. L. Maxwell's No. 1 M. D. Hinchliff, 300 ft. from E line and 1,000 ft. from N line of H.&T.C. Sur. No. 150. Location.

Thomas et al's No. 1-A Eicke, 660 ft. from W line and 2,350 ft. from S line of tract in Green Sur. T.D. 5,058 ft.; D.S. test 5,025 ft., ¼-in. choke, 5 min., 8 thribbles mud; S.D. orders.

MATAGORDA COUNTY

Continental Oil Co.'s No. 1 Robbins. Drlg. shale 5,203 ft.

Dr. Griffith's No. 1 fee, 3,000 ft. from N line and 3,000 ft. from W line of Wm. E. Bell Sur. Rigged up and drlg. water well.

United North & South Dev. Co.'s No. 1 Unit 4, Buckeye farm, J. C. Keller league, 214 ft. N line and 202 ft. E line of lease. T.D. 7,880 ft.; W.O.C.

United North & South Dev. Co.'s No. 1 Unit No. 58, 250 ft. N and 200 ft. W of SE cor. of Unit No. 58. Spud.

MONTGOMERY COUNTY

Baker et al's No. 1 Benker, D. James Sur. Whipstocked and drilled to 4,750 ft.; D.S. test in 10 min.; built up 50 lbs. pressure and showed 1 joint oil and mud and 30 thribbles S.W.; S.D. for orders 4,968 ft.

Brown & Wheeler et al's No. 1 Jones, 440 ft. out of NW cor. of S 175 acres of 350-ac. tract. Location.

Humble O. & R. Co.'s No. 1 Anna M. Platte, 466 ft. S and 1,100 ft. W of NE cor. of 100-ac. tract in Wm. Barker Sur. Drlg. shale 5,320 ft.

Sayre Oil Co.'s No. 1 Delta Land & Lbr. Co., 330 ft. out of NE cor. of J. Truitt Sur. Drlg. shale 1,550 ft.
Shell Pet. Corp.'s No. 1 Crighton, 1,430 ft. W and 290 ft. S of NE cor. of lease in Mary Corner Sur. T.D. 1,114 ft., shale; reaming.

ORANGE COUNTY

Blue Line Oil Co.'s No. 1 Godwin, Richard Ballew Sur., 300 ft. from E line and 150 ft. from NE line of Godwin 30-ac. tract. Drlg. shale 2,560 ft.
Texas Louisiana Oil Co.'s No. 1 Starks, 2,450 ft. N of NW cor. M. Delano Sur. 63, 16,500 ft. E at R/A. T.D. 5,055 ft.; S.D.

POLK COUNTY

Howard Dailey et al's No. 1 Z. B. Knox, 1,450 ft. W and 1,920 ft. S of NE cor. of F. Chairs Sur., 1½ mile NE of Corrigan Spud and S.D.

REFUGIO COUNTY

Cox et al's No. 1 F. W. Bissett, J. Crockett Sur. T.D. 5,775 ft.; no report.
Heard-Holland Oil Co.'s No. 1 Peck, 366 ft N and W out of NW and SW of Bonnie View Subd. T.D. 5,351 ft.; D.S. test 5,330-37 ft., 11 mins., 400 lbs. pressure, ¼-in. choke top and 5/16-in choke on bottom; D.S. test 5,337-51 ft. showed 220 lbs. pressure 11 mins., and 100 ft. mud cut with gasoline and some fresh wtr.; prep. to set 7⅝-in csg. at 5,343 ft.; W.O.C.
G. Jeffries' No. 1 James F. Power, 759 ft. from N and 1,812 ft. from E lines of 500-ac. lease in J.J. Garza and J. Vidaurri Sur. T.D. 4,523 ft.; washing.
Quintana Oil Co.'s No. 2-A O'Connor, 450 ft. N and 450 ft. W of No. 1. Spud.
Quintana Oil Co.'s No. 1-B O'Connor, 139 ft. E line and 2,525 ft. S line of B.B.B.&C. Sur., Abst. 96. Drlg. 2,200 ft.

SAN AUGUSTINE COUNTY

Fidelity Exploration Co.'s No. 1 Bryan & Flourney, 1,926 ft. from N and 726 ft. from E lines of Sec. 14, S.P.R.R. Sur. T.D. 2,065 ft.; S.D.; moving in heavy rig to drill to Woodbine.

SAN JACINTO COUNTY

Darby Jones' No. 1 McBee. Drlg. sand and shale 3,017.

TYLER COUNTY

Boone-Wallace & Lane's No. 1 Cruse Drlg. 2,515 ft.

VICTORIA COUNTY

American Liberty Oil Co.'s No. 1 Gaugler, SE cor. of Gaugler 268-ac. tract and just N of Petrol Corp.'s No. 1 Machadec. Location.
American Liberty Oil Co.'s No. 1 Prybil, 330 ft. out of SE cor. of Prybil 122-ac. tr. Rig up.
John F. Camp's No. 1 Zimmer, 330 ft. from SE and NE lines of SW of 58.5-ac. tract of Zimmer 117-ac. lease in R. Manchola Sur. T.D. 2,209 ft.; D.S. test 2,200-09 ft., 12 min., 5/16-in. choke, 3 thribbles oil, 225 lbs. pressure.
Feltex et al's No. 1 Herman Dietzel, 180 ft. from NW line and 330 ft. from SW line of 80-ac. tract in Manchola Sur. Drlg. 2,720 ft.
Gulf Prod. Co.'s No. 6 Keenan, begin at intersection of R.R. and SW line of survey, thence NE along R.R. 6,257 ft., thence NW at r/s 2,539 ft. in the M. DeLeon Sur. Drlg. shale 4,839 ft.
Humble O. & R. Co.'s No. 1 McFadden est., 3,000 ft. S. 15 deg. W of Lion O. & R. Co.'s No. 1 McFadden in C. O. Edwards Sur. T.D. 3,934 ft.; D.S. test 3,713-21 ft., 5 min., ¼ and 5/16-in. chokes, 500 lb.s dry gas.
Humble O. & R. Co.'s No. 2 Mitchell, 6,500 ft. NW line, 7,000 ft. from SW line of Mitchell 5,000-ac. tract. Drlg. sand and boulders 1,700 ft.
Nutex Oil Co.'s No. 1 Zimmer, 330 ft. out of SW cor. of E½ of John Zimmer 130-ac. tract. T.D. 2,209 ft.; W.O.C.
Albert Plummer's No. 1 Zimmer, 330 ft. NE and SE lines of lease in Manchola Sur. Derrick.
Quintana Oil Co.'s No. 1 McCormic, 500 ft. SW line, 500 ft. NW line of survey in most westerly NW cor. S.A.&M.G. Sur. No. 3. T.D. 6,150 ft.; shut in.
Texas Co.'s No. 2 McFaddin, 9,150 ft. S and 200 ft. E at right angles out of NW cor. of C. M. B. Hoyt Sur. T.D. 4,352 ft.; S.D.

WHARTON COUNTY

Pure Oil Co.'s No. 2 Chas. T. Kountze, 2,310 ft. at R/A from NW line and 990 ft. at R/A from SW line of 250-ac. tract in Morris & Cummings Sur., No. 19. Coring shale 5,091 ft.
Pure Oil Co.'s No. 2 Stewart, Morris & Cummings Sur., Sec. 25, 990 ft. out of SW cor. of 160 acres. T.D. 3,236 ft.; fshg.
Pure Oil Co.'s No. 1 J. S. Stidhan, 433 ft. SW and 1,320 ft. SE of N cor. of Stidhan 160-ac. tract in Morris & Cummings Sur. No. 23. Drlg. shale 2,574 ft.
Texas Gulf Prod. Co.'s No. 1 Kresta, 440 ft. N and E from SW cor. of tract in Sec. 54, W. B. Ivey Sur. Cmtd. 13⅜-in. surface csg. 1,400 ft.

SOUTH LOUISIANA

ACADIA PARISH

Edwards Drlg. Co.'s No. 1 Daigle, NE cor. of SE of Sec. 24-7s-1e. Coring shale 7,074 ft.
Rhodes Drlg. Co.'s No. 1 Lattrell. S.D. 2,280 ft.

AVOYELLES PARISH

Hass & Stokes' No. 1 Hass, from NE cor. SE Sec. 28 go along E line of Sec. 28 2,436 ft. to point on highway; thence 84 deg. E on highway for 336 ft., thence N 87 deg. E for 4,426 ft., then N 45 deg. E 226 ft Rigging up and S.D.

BEAUREGARD PARISH

Federal Pet. Co.'s No. 1 Lutcher-Moore, 467 ft. S and 467 ft. E of the NW cor. of Sec. 4-6-12. Drlg. 3,560 ft.
Federal Pet. Co.'s No. 1-B Lutcher-Moore, 6 miles NW of No. 1 Lutcher-Moore and near Fields. Drlg. 3,515 ft.

CALCASIEU PARISH

Fred Oil Co.'s No. 1 Faisst, 566 ft. N, 300 ft. W of SE cor. of NW of SE Sec. 26-8s-10w. T.D. 2,875 ft.; W.O.C.
Steinberger Pet. Co.'s No. 1 Drew, 330 ft. out of NW cor. of NE¼ of Sec. 26-10s-11w, 6½ miles SW of Sulphur. Location.
Union Sulphur Co.'s No. 2 Barbe, 279 ft. S and 350 ft. W of NE cor. of SE of Sec. 11-9s-3w. Drlg. sticky shale 6,850 ft.; no report.

CAMERON PARISH

Southern Sulphur Oil Corp.'s No. 1 Gulf of Mexico, near the mouth of the Calcasieu River. Drlg. gumbo 3,280 ft.; no report.

IBERIA PARISH

Diamond Corp.'s No. 1 Edmond Victor, 1,908 ft. E and 450 ft. from SW cor. of Sec. 41-12s-5e. Derrick.
Y. D. Spell's No. 1 Sabiater, 25 ft. NW of No. 1 A. B. Bernard, Sec. 4-12s-7e. Drlg. gumbo 1,649 ft.

IBERVILLE PARISH

Gross Pet.'s No. 1 Angelloz. T.D. 2,270 ft.; W.O.C.

JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 3 Devilbiss, 1,395 ft. W, 466 ft. S of NE cor. Sec. 14-9s-4w Drlg. shale 6,670 ft.
Humble O. & R. Co.'s No. 1 Martin Kratzer, 400 ft. out of SE cor. 120-ac. tract, Sec 14-9s-4w. Drlg. sand and shale 2,681 ft.
Shell Pet. Corp.'s No. 1 Jernigan, 330 ft. E. 660 ft. S. NW cor. Sec. 13-9s-4w. Drlg. sandy shale 7,352 ft.
Tide Water Oil Co.'s No. 1 Mrs. A. Bourgeois, 250 ft. E and 205 ft. S of C of Sec 28-9s-5w. T.D. 6,107 ft.; P.B. 5,100 ft. to test sand 5,292-5,325 ft.

LAFOURCHE PARISH

Barnsdall Oil Co.'s No. 2 Harang Plantation. T.D 7,216 ft.; S.D.
Barnsdall Oil Co.'s No. 3 Harang Plantation. Rigging up.
R. L. Gay, trustee's No. 1 Godchaux, 3,920 ft. N and 1,746 ft. E in common cor. of Lots 34 and 26, Twp. 15s-19e. Drlg. shale 5,226 ft.
Southern Sulphur Corp.'s No. 1 D. L. Lagraize, 800 ft. E of NW cor. of Lot 7 thence 250 ft. S of Sec. 26-21s-22e. Spudded and S.D.

PLAQUEMINES PARISH

Southern Sulphur Co.'s No. 1 Bay Adama, 2,325 ft. W and 826 ft. S of NE cor. of Sec. 23-20s-28e. T.D. 725 ft.; S.D.
Venice Corp.'s No. 1 Burras. Drlg. lime rock 1,176 ft.

RAPIDES PARISH

C. D. Loe's No. 1 Barrett, 330 ft. NW of SE line and 880 ft. NE of SW line of Sec. 40-5n-1w. Rigging up.

ST. BERNARD PARISH

Danciger's No. 1 Battles, 836 ft. N, 2,193 ft. W of SE cor. Sec. 135-14s-14e. T.D. 42 ft.; W.O.C.
Joe Danciger's No. 1 Delacroix Land Fur Co., 2,442 ft. W and 660 ft. N of SE cor of Sec. 127-14s-14e. Rigging up.
Southern Sulphur Oil Co.'s No. 1 State-Lake Borgue, 850 ft. N and 230 ft. E of SE cor of Sec. 33-12s-15e. Drlg. sand and shale 2,722 ft.; (no report).
Southern Sulphur Corp.'s No. 1 Lake Lery, 400 ft. W, 500 ft. N, SW cor. Sec. 28-13s-15e. Shale 2,751 ft.; no report.

ST. LANDRY PARISH

Bailey Gaunce's No. 1 Lewis, 300 ft. N and E of SW cor. of NW of NE of Sec. 29-5s-6e (workover). T.D. 5,017 ft.; S.D.

ST. MARTIN PARISH

Texas Co.'s No. 6 St. Martin Land Co., 660 ft. S and 500 ft. W of NE cor. SE Sec 17-8s-7. Drlg. shale 7,577 ft.

ST. MARYS PARISH

Black et al and Edwards Drlg. Co.'s No. 1 Chetimancha, Sec. 34-13s-9e, 219-ac. tract approximately 500 ft. at right angles SE and SW lines of tract. T.D. 6,501 ft.; S.D.

TERREBONNE PARISH

Texas Co.'s No. 1-B State-Bay Junop, 2,200 ft. N., 950 ft. E of SW cor. Sec. 27-21s-14e. T.D. 7,375 ft.; abnd.
Texas Co.'s No. 2 School Board, 2,630 ft. S and 1,284 ft. E of NW cor. of Sec. 16-22s-18w. Rigging up.

VERMILLION PARISH

Moore Bros.' No. 1 Brussard, 350 ft. S of N line, 250 ft. E of W line, NE cor. Sec. 32-11s-3e. Drlg. shale 2,006 ft.

VERNON PARISH

Anderson & Kerr Drlg. Co.'s No. 1 Nona Mills, 330 ft. S and W of NE cor. of Sec. 25-2n-9w. T.D. 4,094 ft.; abnd.
Robt. K. Williams Jr.'s No. 1 Llano Del Rio, 1,185 ft. S, 1,000 ft. W of NE cor. Sec. 7-1n-9w. Rigged up and S.D.

La.-Ark. Wildcats

(Continued from Page 70)

R. B. Campbell et al's No. 1 Cook Land Co., 150 ft. N, 300 ft. W, SE cor. NW NW Sec. 35-10-12. W.O. csg. 1,536 ft.
G. H. Collins' No. 1 Bellieu & Carter, 220 ft. S and W, NE cor. NW SW Sec. 21-9-13. Tested show oil; W.O. 2,070 ft.
De Generes et al's No. 3 Crawford, 330 ft. N and E, SW cor. NW NE Sec. 20-9-13. Tested S.O.; S.D. 1,690 ft.
Graham & Dalton's No. 1 Burkett, 330 ft. N and W of C Sec. 16-9-13. Testing 1,992 ft.
Earl P. Halliburton's No. 1 Paul, 330 ft. S and E, NW cor. SW SW Sec. 21-9-13. Tested S.W.; P.B.
Laurel Pet. Co.'s No. 6 Frost Ind., Sec. 20-9-13. Set 6-in. 1,512 ft.
Zan Lloyd's No. 1 Henderson, 330 ft. N and W, C Sec. 29-9-13. W.O.S.R. 2,031 ft.
Dr. O. B. Hicks' No. 1 Neal, SE SW SE Sec. 18-9-12. Set 10-in. 40 ft.
Geo. L. Pace's No. 2 DeSoto Corp., 1,080 ft. S, 990 ft. W, NE cor. SE Sec. 27-10-13. Drlg. 3,079 ft.
W. H. Rowe et al's No. 1 Craig, 330 ft. S and E of C Sec. 22-9-13. S.D. 1,200 ft.
J. A. Stinson's No. 1 Whitney Corp., 330 ft. S and W, NE cor. Sec. 8-9-13. W.O.S.R. 2,014 ft.
Valley-Osage Oil Co.'s No. 1 Burkett, 330 ft. S and W NE cor. SW NE Sec. 10-9-13. Set 6-in. 1,748 ft.; used acid 1,963 ft.

RAPIDES PARISH

Ben Banner's No. 1 Bentley Lbr. Co., 2,640 ft. E. NW cor. Sec. 11-4n-5w. S.D. for water 3,200 ft.
Evans & Collingsworth's No. 1 Hickman, 330 ft. S and E, NW cor. Sec. 40-4-1e. S.D. 2,130 ft.
C. D. Loe, Trustee's No. 1 Baird Est., SE cor. Sec. 40-5n-1w. Rigging up.

WEBSTER PARISH

Abney Oil Corp.'s No. 3 Slack, 660 ft. N, 575 ft. W. SE cor. NE SE Sec. 36-23-11 Drlg. 2,690 ft.
M. J. Kissick's Trus. No. 1 Slack, 477 ft. S 325 ft. E NW cor. SW NW Sec. 18-23-10 Dry and abnd. 2,738 ft.

WINN PARISH

Red River Ref. Co.'s No. 1 Tremont Lbr. Co., 150 ft. N and W, SE cor. NE NE Sec. 35-11-1w. Dry and abnd. 1,611 ft.

ARKANSAS

COLUMBIA COUNTY

O. F. Whittaker's No. 1 Hall, C SE NE Sec. 10-15-20. Comp. pumping 15 bbls. 2,156 ft.

CONWAY COUNTY

Sou. Union Gas Co.'s No. 1 Feldman, C SW SW Sec. 6-5n-17w. S.D. 3,100 ft.

HEMPSTEAD COUNTY

Ark. Drlg. Co.'s No. 1 Jones, 1,000 ft. S, 600 ft. W. NE SE Sec. 11-14-24. Set 10-in. 160 ft.
E. A. Austin's No. 1 McWilliams, 300 ft. N and W of SE cor. NW SW Sec. 19-12-23. Drlg. 510 ft.
A. H. Bagnelle's No. 1 Trattner & Rhinehart, Sec. 2-13-26 S.D. 1,992 ft

LAFAYETTE COUNTY

Douglas Lawn's No. 1 Camp, 330 ft. S and W, NE cor. SW SE Sec. 14-15-23. Drlg. 2,406 ft.
Earl F. Fox's No. 1 Coleman Bros., 330 ft. N and W, SE cor. NW NE Sec. 26-16-25. Drlg. 1,976 ft.

LEE COUNTY

Ark.-La. P. L. Co.'s No. 1 McDonald, 1,500 ft. N, 370 ft. E, SW cor. Sec. 28-1s-4e. Drlg. 3,455 ft.

MILLER COUNTY

Fitzwater et al's No. 1 Norson, SW cor. SE SW Sec. 20-15-27. S.D. 3,177 ft.
King Oil Corp.'s No. 1 C. H. Schroder, 200 ft. N, 330 ft. E, SW cor. SW NE Sec. 24-14-28. S.D. 2,000 ft.
W. F. Lacey's No. 1 Gibson, 330 ft. S and E. NW cor. SW NW Sec. 30-19-27. S.D. 3,808 ft.
Oil Well Oil Corp.'s No. 1 Dodd, 300 ft. S. 200 ft. E. NW cor. SW NE Sec. 10-19-28. S.D. 52 ft.
Texarkana Oil Corp.'s No. 3 E. H. Beck, 330 ft. S and W NE cor. SE SE Sec. 33-15-26. Coring 2,774 ft.
Lee Timberlake et al's No. 1 E. L. Beck, 150 ft. N and E, SW cor. NW SE Sec. 33-15-26. Coring 2,950 ft.
John Wrather's No. 1 Olivet, 809 ft. S, 150 ft. E. NW cor. NE. W.O.S.R. 2,937 ft.
John Wrather's No. 1 Beck, SW cor. SW SE Section 34-15-26. Set 10-in. 150 ft.; drlg. 1,700 ft.
E. L. Young, tr.'s No. 1 Patterson, SE cor. SE NE Sec. 5-19-28. Junked and abnd. 2,655 ft.

OUACHITA COUNTY

F. A. Book et al's No. 1 Arnold, Sec. 24-15-16. S.D. 2,032 ft.
J. D. Reynolds' No. 1 Guttry, 452 ft. S, 150 ft. W, NE cor. NE SW Sec. 21-15-19. W.O.S.R. 1,506 ft.

UNION COUNTY

Alexander-Head Oil Co.'s No. 1 Union Saw Mill Co., 330 ft. S and E, NW cor. SW SW Sec. 28-19-13. S.D. 2,300 ft.
Mrs. R. K. Jones et al's No. 1 J. Davis, 330 ft. N and W, SE cor. NW NW Sec. 28-16-14. Arrng. to test 2,764 ft.
McCrosienn Oil Co.'s No. 1 Union Saw Mill Co., 330 ft. N and W, SE cor. NE NW Sec. 3-18-13. Drlg. 2,916 ft.
Marine Oil Co.'s No. 2-B Union Saw Mill Co., 330 ft. N and E, SW cor. SW NW. Set 7-in. 3,573 ft.
Tubal Pet. Co.'s No. 1 Gaddy, 340 ft. N and E, SW cor. SE NW Sec. 14-17-14 S.D.; W.O. 2,416 ft.

MISSISSIPPI

AMITE COUNTY

Mineral Resources, Inc.'s No. 1 Anderson, C NE NW Sec. 14-3n-3e. S.D. 550 ft.

ISSAQUENA COUNTY

Pelican Oil & Gasoline Co.'s No. 1 Steel Bayou Corp., 400 ft. N, 350 ft. E. SW cor. NW Sec. 14-12n-8w. D.S. stuck 3,125 ft.

JONES COUNTY

Snow-Black Pet. Co.'s No. 2 Watson, 520 ft. W, 200 ft. S, C Sec. 24-7n-13w. Drlg. 1,780 ft.

SIMPSON COUNTY

Berry Corp.'s No. 2 R. T. Berry, Sec. 33-2n-4e. Set 7-in. 2,048 ft.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, SW cor. SW SE Sec. 24-2n-9e. Moving in rig.

WARREN COUNTY

Orbet Drlg. Co.'s No. 1 R. L. Parker, 300 ft. E, CWL Sec. 14-14-1e. S.D. 3,169 ft.

WASHINGTON COUNTY

Perkins & Dees' No. 1 Lee, 1,500 ft. E, 600 ft. N, SW cor. Sec. 33-15n-8w. Set 10-in. 300 ft. and S.D. (corrected).

La.-Ark. Proven Fields

NORTH LOUISIANA

CADDO—HOSSTON

Bayou State O. & G. Co.'s No. 1 Connell, 1,900 ft. N, 1,198 ft. E. SW cor. Sec. 15-21-14. W.O.S.R. 964 ft.
Shore Line Oil Corp.'s No. 1 Harrell, 350 ft. N and W, SE cor. Sec. 2-22-16. Comp. pumping 4 bbls. 1,034 ft.
Shore Line Oil Corp.'s No. 2 Harrell, 250 ft. S and E of C Sec. 2-21-16. Rigging up.
Shore Line Oil Corp.'s No. 1-B Standard, 250 ft. N and W, SE cor. Sec. 12-21-16. P.B. to 1,058 ft.

CADDO—RODESSA

Ark.-La. Pipe Line Co.'s No. 1 Parker, 725 ft. S, 450 ft. E, NW cor. NE NW, Sec. 26-23-16. Rigging up.
Producers & Pyramid O. & G. Co.'s No. 2 Hammock, 660 ft. N and E SW cor. NW. Sec. 3-18-16. Set 8-in. 40 ft.; coring 905 ft.
United Gas Pub. Ser. Co.'s No. 1 Christian, 724 ft. N, 1,382 ft. W SE cor. Sec. 23-23-16. Derrick.

SABINE PARISH—ZWOLLE

Alexander & Cane's No. 1 Fogman, SE cor. N½ SW NE Sec. 18-7-11. S.D. 1,700 ft.
Ivan A. Allen's No. 1 La. Long Leaf, 330 ft. N and W, SE cor. NW SE Sec. 12-7-11. S.D. 750 ft.
Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12. S.D. 1,100 ft.
Foster & Hartman's No. 1 Bowman-Hicks, 330 ft. S and E, NW cor. NE Sec. 10-7-12. Tested dry 2,696 ft.
E. D. Holcomb's No. 1 Porter, 330 ft. S. 330 ft. W, NE cor. SE Sec. 7-7-11. W.O.S.R. 2,580 ft.
H. C. Maulding's No. 3 DeLatin, 330 ft. S and E. NW cor. NE SE Sec. 3-7-11. S.D. 1,700 ft.
Monroe Prod. Co.'s No. 1 Bowman-Hicks, 330 ft. N and E SW cor. SW SE. Rigging up.
Pelican Nat. Gas Co.'s No. 33 La. Long Leaf, 183 ft. S, 283 ft. E, cen. Sec. 29-8-11. Set 10-in. 63 ft.; drlg. 2,200 ft.
Pelican Nat. Gas Co.'s No. 14 Sabine Lbr. Co., 330 ft. N and W, SE cor. NE SW Sec. 11-7-12. Testing 2,440 ft.
Tex.-La.-Ark. Oil Co.'s No. 1 Pickering Lbr. Co., Sec. 3-3-12. Drlg. 1,790 ft.

EAST TEXAS (BORDER COUNTIES)

CASS COUNTY

United Gas Public Service Co.'s No. 1 Walton, John Coleman Sur. Drlg. 5,570 ft.
R. K. Kamon et al's No. 1 Savage, Mary Patterson Sur. S.D. 4,016 ft.

HARRISON COUNTY

R. C. Payne et al's No. 1 Lowery, B. D. Spain Sur. P.B. to 3,524 ft.

PANOLA COUNTY

Givens & Holloway's No. 1 Wooten est., Winnie Mann Sur. S.D. 750 ft.
R. W. Price's No. 1 Crawford, J. A. Williams Sur. Rigging up.

SHELBY COUNTY

Bush Oil Int.'s No. 1 Windham, W. M. Blackburn Sur. S.D. 3,366 ft.
R. H. Davis' No. 1 Wooten est., Winnie Mann est. Set 10-in. 80 ft.
Cliff Stovall's No. 1 Pickering Lbr. Co., C. H. Patterson Sur. Set 10-in. 20 ft.
Turner & Neil's No. 1 Pickering Lbr. Co., P. W. Harvey Sur. S.D. 250 ft.

ALABAMA

CLARKE COUNTY

Magnolia Pet. Co.'s No. 1 Scotch Lbr. Co., 350 ft. N, 310 ft. E, C Sec. 17-10n-3e. Drlg. 3,960 ft.

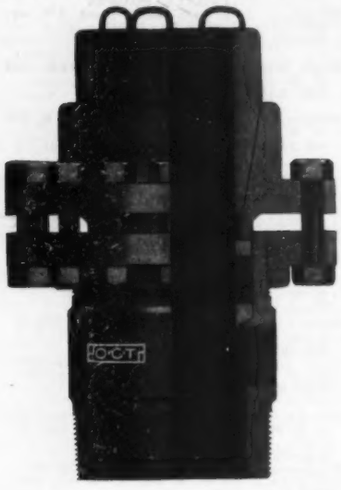
HOUSTON COUNTY

Rice O. & G. Co.'s No. 1 Oakley est., SE cor. NW SW Sec. 9-3n-29e. Drlg. 2,025 ft.

NEW AND IMPROVED EQUIPMENT

New O-C-T Bradenhead Has Advantages of Importance

The Type J slip suspension bradenhead now being marketed by the Oil Center Tool Co., Houston, Tex., after thorough tests in the field, is made of



forged steel throughout, excepting the slip bowl which is cast chrome nickel steel. The packing is of hydraulic or asbestos, according to the user's requirements. The head is tested to 5,000 pounds.

The upper end of the main body has the same size A.P.I. casing thread as the bottom, making it possible to screw the bradenhead on casing and screw the blowout preventer on top of the bradenhead before running the 7-inch pipe and cementing it, leaving the blowout preventer closed around the 7-inch pipe while cement is drying.

The accompanying illustration shows a bradenhead 10¾-inch outside diameter to 7-inch outside diameter, with two 3-inch gas outlets.

Chain of Unusual Strength Is Developed by Link-Belt

A new drop-forge oil-country chain for deep, difficult drilling, to be known as SS-124 Three-Bar Hyper, is announced by the Link-Belt Co., Indianapolis and Los Angeles. This is an A.P.I.4 chain of 180,000 pounds ultimate strength, attributed to a well-balanced design, accuracy in manufacture, precision fits of component parts, and the tough alloy steels of which it is made.

Among details of construction are: Drop-forged alloy steel sidebars, normalized and heat-treated, of offset type, reinforced by rib at offset, preventing pitch distortion under extreme load; pin-head-lock forged integral with sidebar, making a convenient and secure lock for Safe-T-Head pin; bushings machined from round nickel alloy steel, casehardened, and ground externally and internally to precision accuracy; solid tubular rollers of nickel chromium alloy steel, heat-treated; forged nickel chromium alloy steel Safe-T-Head pin, machined, heat-treated, and ground to precision accuracy, the pin head being made T-shaped and locked against pin-head-lock on sidebar; oil-country cotter of nickel alloy steel, heat-treated, with solid, tapered head, the shank end being split and spread after assembly; tight press fits, and every link of exact pitch.

Among the Equipment Houses

P. J. Dasey, engineer, has become associated with the Mid-Continent Supply Co., Fort Worth, Tex., as sales engineer, specializing in the sale of Cummins Diesel engines for which the Mid-Continent Supply Co. is exclusive distributor in the Mid-Continent territory. T. E. Brandon has joined Mid-Continent sales department and expects to spend most of his time in the West Texas territory.

—

Walter A. Olen, president and general manager of the Four Wheel Drive Auto Co., has been appointed to serve on Governor Schimedeman's committee on street and highway safety for the State of Wisconsin.

—

K. F. Cramer, employed by McIntosh & Seymour Corp. for years, has been appointed district manager for the Chicago district. After graduation from Syracuse University, Mr. Cramer was affiliated for a short time with the Worthington Pump & Machinery Co. in Buffalo, and then joined McIntosh & Seymour.

—

Allis-Chalmers Manufacturing Co. announce the appointment of W. R. Judson as manager of the Salt Lake City district office, located in the Kearns Building, Salt Lake City. For the last three years Mr. Judson has been managing director of Allis-Chalmers (France), representing the Allis-Chalmers Manufacturing Co. in Europe. Prior to that, for 13 years, he was manager of the company office in Santiago, Chile, covering Chile, Peru, and Bolivia.

—

American Cyanamid & Chemical Corp., New York, has acquired the plant, properties and business of Burton Explosives, Inc., Cleveland, Ohio, which since its organization in 1930 has been engaged in the manufacture and sale of high explosives and blasting supplies.

—

The Atlas Supply Co., Muskogee, Okla., has opened two new stores recently, one in Bushton, Kans., with Herschel Harder as manager, and one in Fairfax, Okla., with J. D. Lewis as manager.

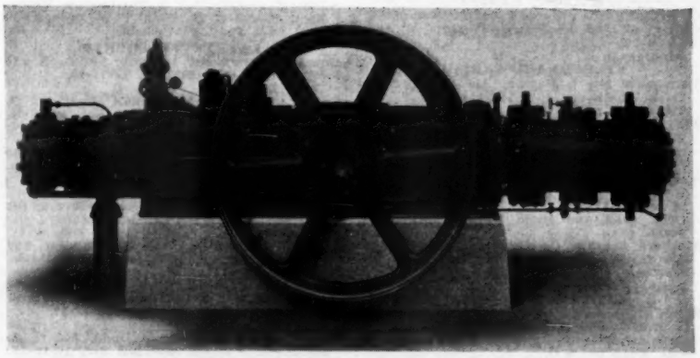
—

The Sivyer Steel Casting Co. of Milwaukee, Wis., has opened an eastern office in charge of A. N. Diecks, at 500 Fifth Avenue, New York. This office will specialize in the products of the refinery division of Sivyer, consisting of Sivyer steel return bends, special refinery fittings, alloy tube supports, and Sivyer stainless steel castings for refinery use.

—

The Dayton Rubber Manufacturing Co. of Dayton, Ohio, has appointed Edward P. Spore as district representative, to be in charge of distribution and sales of Dayton's complete line of V-belts and pulleys for all types of industrial service in the Southwest.

Provides Air for Pneumatic Pumping of Oil Wells



The G-MG gas-engine-driven air compressor manufactured by the Cooper-Bessemer Corp., Mount Vernon, Ohio, was developed to furnish air for the pneumatic pumping of oil wells. While the compressor cylinder end of this engine has special features designed to meet the conditions imposed by this particular method of pumping, the unit will also find a wide market wherever an air or gas compressor of its size is used.

The power end is an adaptation of a standard G-AG oil field two-cycle engine. The power cylinder is the same diameter and stroke and has the same auxiliary equipment, such as magneto, governor, lubricator, etc. This was done so that oil companies using the G-AG standard oil field engine will not need to carry a duplication of spare parts if they wish to use the pneumatic method on a part of their wells.

The engine bed has been extended with a bolt circle for attaching the compressor cylinder. A longer wristpin than is used in the regular pumping engine permits the attaching of distance rods to the main crosshead for driving the compressor. This method of drive allows the connecting rod and crosshead, as well as the crankshaft and main bearings, to be the same as are used in a standard pumping engine.

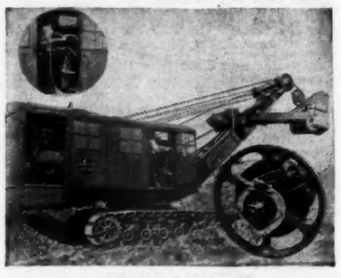
The compressor end is an adaptation of a standard Cooper-Bessemer double-acting compressor cylinder. It is built with a removable cylinder liner and the construction is such that this liner can be changed to give a limited range of diameters.

The unit is rated 35 horsepower at 210 revolutions and 50 horsepower at 300 revolutions. A larger size unit of this same general design using standard G-AO pumping engine parts in also available. This latter is rated 45 horsepower at 200 revolutions and 65 horsepower at 300 revolutions.

Harnischfeger Develops "Surefeel" Power Clutch

The trend of modern machinery design strives toward elimination of all possible physical labor. This is illustrated in the "Surefeel" power clutch recently developed by the Harnischfeger Corp., Milwaukee, Wis., for use on power excavators. According to the manufacturer the control so thoroughly sensitizes the power clutch that the heaviest loads can be handled with ease.

The illustration shows this new device being demonstrated on the company's test field at Milwaukee. Here is a load of 9,050 pounds balanced in mid-air with one



finger and without touching the brakes. This device increases digging speed and prevents motor stalling while the easier handling permits the operator to get more done with less fatigue in the day's work.

Excessive strain and maintenance costs are reduced too. If the operator strikes a 10,000-pound rock, it requires only a second to release power and ward off what might otherwise develop into a costly repair bill in the jolt transmitted to the revolving frame, engine and drum mechanism.

The "Surefeel" clutch is used also in the P&H cranes for its advantage in accurately hoisting steel beams on construction jobs, etc., where the operator can feel the load at all times.

Hazards of Well Shooting Reduced by New Container

Operators are following with increasing interest a new type of explosives container recently introduced by the Synthane Corp., of Oaks, Pa., in conjunction with C. O. Rison, of Oklahoma City. The principal advantages of the new container are enumerated as follows by the company:

1. Made of Synthane-Risonite, an especially processed and manufactured type of laminated bakelite which is nonmetallic, moisture-resistant and unaffected by oil.

2. Makes possible low overall shooting costs by eliminating long and expensive cable-tool cleaning-out jobs. On explosion the containers are blown into small bits. Fragments not ejected or floated out do not tend to form bridges or plugs in casing or well. Generally there is no need for drilling out bridges after the shot so that wells can usually be swabbed in or bailed and put back on production immediately.

3. The dense tough structure of Synthane-Risonite minimizes transfer of heat and resists abrasion. This tends to reduce the hazard of premature explosion ordinarily chargeable to abrasion, rupture and heat generated by friction.

4. Light in weight. Easy to handle. Synthane-Risonite containers are not readily punctured or broken because of their high strength-to-weight ratio.

Synthane-Risonite explosives containers are reported to have met with suc-

cess in the deep wells of the Oklahoma City Field. C. O. Rison, general superintendent of oil production for the Indian Territory Illuminating Oil Co., Oklahoma City, is responsible for the development of the container and has applied for a patent.

"Straight-Through" Valve Finds Many Applications

The Edward Valve and Manufacturing Co., Inc., East Chicago, Ind., offers

a novel forged-steel valve which is finding numerous applications in industrial service as well as in the refinery field, for which it was originally designed. The valve, known as a "straight-through" valve, is somewhat similar in characteristics, as far as straight line flow is concerned, to a gate valve. Instead of a wedge disc, the disc is a truncated cone swiveling on the end of the stem.

The valve is made in sizes from one-quarter to 1 inch and fulfills the functions of a gate valve in the smaller size range. The valve is largely used on instrument lines, for which it is well suited by reason of its sturdy construction. It is rated for 2,500 pounds hydraulic pressure at room temperature and 600 pounds w.s.p. at 750° F.

Carbon steel, stainless steel and "18-8" are the standard materials in which it is furnished.

The inside screw type of bonnet is found to possess substantial advantages for high pressure service due to the fact that lower packing pressures are necessary to maintain a pressure tight joint in the stuffing box when the stuffing box is located at the upper end of the bonnet.

RYERSON COMPLETES EXTENSION

A new addition to the Joseph T. Ryerson & Son plant and equipment in St. Louis greatly increases facilities for storing and dispatching steel and allied products for the St. Louis area. Approximately 40,000 square feet of floor space has been added by extending one of the large spans 165 feet and erecting a new building across the east end of the main warehouses. The greater part of this new space is given over to the warehousing of products requiring special protection from atmospheric changes. This is provided by a circulating warm air heating system. On the second floor are modern daylight offices equipped with an air conditioning and cooling system.

POLARICODE JUNIOR CONTROL

To meet the demand for an inexpensive means for remote operation of various small stations the Westinghouse Electric & Manufacturing Co. announces Polaricode, Junior, a small supervisory control. The new unit includes a raise-lower control combined with simultaneous telemetering indication of position for distant control of variable position apparatus such as valves, rheostats, and similar equipment. "Polaricode, Jr." is designed for application to small electrified pumping stations, industrial plant substations, and similar applications. Except for size, the unit is comparable to all Westinghouse supervisory control systems.

Notes About Trade Literature

Parker tube couplings and associated equipment are described, along with a price list in Bulletin No. 37, issued by the Parker Appliance Co., 10320 Berea Road, Cleveland, Ohio.

The July-August Lufkin Line, published by the Lufkin Foundry & Machine Co., Lufkin, Tex., contains an article on "Deep Well Pumping," by E. P. Trout, California district manager of the company.

A 32-page illustrated catalog, No. 1415, with horsepower and other engineering data, dimension diagrams, etc., has been issued by Link-Belt Co., Philadelphia, Chicago, San Francisco. A copy may be obtained by request on business letterhead. The book covers single, double and triple reduction units of herringbone gear type; also a full line of flexible couplings.

Bulletins obtainable from the Pennsylvania Pump & Compressor Co., Easton, Pa., include "Pennsylvania Multistage Centrifugal Pumps," "Pennsylvania Air Compressor" and "Pennsylvania Penn-Motor Pumping Units."

Details of the Babcock & Wilcox integral-furnace boiler, as well as operating characteristics of several installations, are contained in a new 20-page illustrated booklet published by the Babcock & Wilcox Co., 85 Liberty Street, New York.

for Profit" may be obtained from the New Jersey Zinc Co, 160 Front Street, New York. Its discussion of heat reflection and heat radiation is of interest to owners of tanks, trucks and other property that may be subjected to intense heat.

Among the interesting articles in the current issue of Inco, published by the International Nickel Co., is one entitled "When Mud Is Precious," emphasizing the value of Monel metal screen cloth in the making of vibrating mud cleaners.

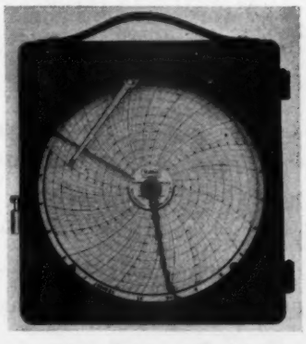
Two new pieces of "Caterpillar" literature have been released. A 48-page catalog on the Diesel Fifty tractor and a folder describing the new Tandem Diesel auto patrol. Both are obtainable from the Caterpillar Tractor Co., Peoria, Ill.

Single-stage centrifugal blowers and exhausters are described in Bulletin 120-B-10, published by Roots-Connersville Blower Corp., Connersville, Ind., While the bulletin covers only the single-stage units, the company manufactures a complete line of multistage equipment.

Discussion of desirable characteristics of boiler nonreturn valves is found in a new 48-page booklet, bulletin No. 11-T, issued by the Edward Valve & Manufacturing Co., Inc., East Chicago, Ind. In addition to photographs of notable installations, a series of views in the Edward metallurgical laboratories, and a condensed catalog, the booklet contains a list of users of Edward nonreturn valves taken from the sales records of a quarter of a century.

Affords Permanent Record of Operating Temperature

The Model 500 Motoco recording thermometer, manufactured by the Moto Meter Gauge & Equipment Corp., Chrysler



Building, New York, is offered as a precision instrument designed to provide a permanent record of operating temperatures. It has a full 6-inch easy reading, evenly calibrated chart. It is made in both portable and wall mounting types. Its element consists of a bulb, capillary tube and a Bourdon tube, filled solidly with a special liquid. When the bulb is subjected to heat or cold the liquid content expands or contracts, and this action is transmitted through the capillary tube to the Bourdon tube, causing the latter to unwind or wind, and in so doing to move the pen across the chart. The instrument is said to be sensitive, steady under vibration, reliable and rugged.

The temperature error is practically negligible and the instrument is compensated for temperature variations and is not affected by altitude or by the temperature of the room in which it is placed. The movement provides ample control of the pointer, and there is unusual freedom from frictional error. The relative position of the head and the bulb do not affect the recording of correct temperatures. All readings represent accurate temperatures at the point where the bulb is inserted.

Manifold and Governor of New Design Are Announced

Users of steam turbines will be interested in a new manifold and governor recently developed and supplied as optional equipment with the Trojan triple stage turbine.

This turbine was originally designed to operate mud screens, but it is used for other purposes as well. The governor is a diaphragm-operated valve, controlled by a positive driven pump, connected to the end of the shaft.

In the oil reservoir is a pressure gauge which indicates the pressure on the

pump and is also an index of the speed at which the turbine is operated.

The manifold is a one-piece brass casting and in the same line with the governor is a needle valve with a stainless-steel pin and seat, which is an auxiliary to the governor should the governor fail to function.

The Trojan turbine has features which the manufacturers say make it as near foolproof as a turbine can be.

The rotor is cast brass, cast in one piece. It is a press-fit to the shaft, which is chromium plated. The bearings are grease-packed with felt retaining rings. The packing glands are extra long and designed for automatic adjusting.

Further details may be had by addressing the California Bettis Co., 1900 East Sixty-fifth Street, Los Angeles, Calif.

Men Well Known in the Equipment Field

J. F. CAILLOUX

J. F. Cailloux, president of the American Iron & Machine Works Co., was born in Vinton, La., went to school in Texas and Louisiana and in 1910 started to work for the Evangeline Iron Works Co., Vinton, as blacksmith helper. He was advanced to blacksmith two years later, holding that job till 1920. In that year Mr. Cailloux organized the Big Three Iron Works, with shops in Homer and Haynesville, La., and El Dorado, Ark.

In 1923 Mr. Cailloux sold his interest in the Big Three and organized the American Iron & Machine Works Co., which now has plants and offices in Oklahoma City, Okla., and Houston, Tex., and branch offices in Seminole, Okla., and Kilgore, Tex.

Lower Valve Puller Has Important New Features

The Williams lower valve puller, manufactured by R. C. Williams & Co., Wayne, Ohio, and distributed through oil-field supply houses, is

used as the bottom of the traveling valve and is placed in the well at the time of pulling the upper valve. To equip a well it is not necessary first to pull the lower valve. The thread of the tap is protected by a shield. The shield by itself is a lock by which the weight of the rods grips to the standing valve cage, and by turning the rods the tap screws into the standing valve cage, connecting the two valves. The two valves may be disconnected in like manner if desired.

If a well accumulates scale, sand, mud or other foreign substance in the tubing, these can be washed out. It merely is necessary to let down, screw on, pull out the barrel, let back, unscrew, and the tap returns to its protected position in the cage.

NEW ELECTRODE ANNOUNCED

Difficulty in arc-welding steels containing more than 20 per cent carbon is said to have been overcome by a new heavy coated electrode, "Murex Special A," it is announced by the Metal & Thermit Corp., 120 Broadway, New York. The new electrode, an improvement of a previous design, hinders the migration of carbon from the parent metal to the deposited metal when welding and gives a more ductile deposit. Sound, dense, X-ray-clean welds, having excellent penetration, can be made in high carbon steels with ease with this new addition to the Murex line, it is said. The deposit, containing a small quantity of nickel, has unusually good physical properties and stress-relieved, all-weld metal specimens invariably show clean full-cupped fractures under test. The tensile strength of these deposits is 73,000 pounds per square inch, the yield point 59,000 pounds per square inch, the elongation in 2 inches is 31 per cent, and the reduction in area is 63.5 per cent.

Canadian Fields

(Continued from Page 67)

naphtha recovery, which now fluctuates between 50 and 60 bbls. a day.

In the southwest corner of the same section, Spooner Oils' No. 5 Anaconda, LSD 1, got the Dalhousie sand at 4,878 feet. Though Highwood-Sarcee's No. 1, immediately south, got a big show of light crude in the Dalhousie, Spooner's No. 5 is drilling below 4,910 feet without a show. It is logging a little higher. Carleton Royalties' No. 1, LSD 2, same section, is entering the Benton shale formation below 518 feet. To the north and west, Richfield Royalties' No. 1, LSD 5, is making new hole below 3,500 feet after cementing against caving. To the east, British Dominion Oil & Development Corp.'s No. 4, LSD 6, got the cardium marker at 1,965 feet and is now below 2,160 feet.

Pacalta Oils' No. 1, LSD 7, same section, has finished a fishing and sidetracking job and is drilling below 5,120 feet. It is more than 65 feet in the lime with some wet gas production. Publix Oil & Gas Co.'s No. 1, LSD 8, is below 4,250 feet and close to the Home sands.

In the northwest corner of the section, Turner Valley Royalties' No. 1 Bell & Brown, LSD 13, is below 2,940 feet. Farther east, Century Royalties' No. 1, LSD 14, got the coal seam marker in the lower Kootenay and is below 5,664 feet. In the northeast corner of the section, Director Royalties' No. 1 rotary test, LSD 16, is below 3,701 feet.

In the Mercury tract, farther north, Mercury Oils' No. 6, LSD 12, Section 4-19-2w5, is fishing at 1,945 feet. Farther south and east, Nolan-Hungerford Royalties' No. 1, LSD 5, Section 34-18-2w5, has started work on Rand Petroleums' No. 1 Vanberta. Rotary outfit has been rigged up and pipe pulled from the old hole, bottoming around 280 feet.

Central Turner Valley

In the Central Turner Valley, New McDougall-Segur Oil Co.'s No. 7, Section 12-20-3w5, got the cardium marker at 1,470 feet, logging higher than No. 6, and is reported setting 12½-inch casing around 2,200 feet.

McLeod-Royalite Deal

Negotiations have been resumed for the acquisition by Royalite Oil Co. of the limestone production rights of McLeod Oil Co. in Section 1-20-3w5. The McLeod company holds acreage in LSDs 15 and 16, on which five wells have been drilled to the naphtha horizon of the Madison lime. In addition McLeod's No. 4 has been carried through the Madison into the underlying formations, standing at a reported depth of 7,755 feet. This is the deepest well in Canada. No. 4 found a lower naphtha horizon about 1,200 feet in the Madison, but only small shows below that formation. It is expected the deal will give the Royalite company limestone production rights only, the McLeod company retaining rights to light crude production from horizons above the lime. The various McLeod wells indicated a fair light crude production from these upper sands, and the McLeod company, if the deal is completed, may undertake a systematic development of light crude possibilities in this area.

Pekisko Hills Test

On the Pekisko Hills structure south of Turner Valley, Pekisko Hills Co.'s No. 1, LSD 6, Section 6-17-2w5, has drilled through a small overturn showing 65 feet of Fernie shale between 1,235 and 1,300 feet and is again in the Madison lime below 1,340 feet. The gas flow, previously estimated 2,000,000 feet a day, shows some increase. Gas from the well is being used as drilling fuel.

Farther north and west, on the Highwood-Sinclair structure, Canadian Royalties' No. 1 Banner, LSD 6, Section 34-17-3w5, has run tools and is cleaning out preparatory to making new hole from 625 feet. Structure was geologized for the old Banner Oils, Ltd., in 1927 by Joseph H. Sinclair who reported five potential oil horizons. According to Mr. Sinclair's theory, the Turner Valley structure strikes to the southwest on the eastern side of Sections 28 and 21, joining the Highwood-Sinclair structure at a point near the Banner acreage. A potential gas horizon is looked for around 1,100 to 1,200 feet.

Hunter Valley Test

In the Forest Reserve area west of Olds, Hunter Valley Oil Co.'s No. 1 McLaren, LSD 12, Section 13-31-10w5, has resumed after cementing casing and is below 2,890 feet.

Watson Structure

On the Watson structure, in the southern foothills, Mar Jon Oil Co.'s No. 3 has been definitely spotted by Geologist Russell Johnson in LSD 3, Section 4-10-2w5. President E. M. Craig and Secretary H. G. Harding visited the field last week in connection with the location. Mr. Craig will supervise operations with Bert Johnson as head driller, and steel derrick and cable tools will be used. Cellar is being dug.

Raven Oils' No. 1, Section 20-9-2w5, is at 415 feet and shutting off surface water. Arrangements have been made whereby Union Drilling Co. of Calgary will supervise the completion and supply necessary equipment and casing in return for a part interest and a block of Raven acreage. The Union company has already taken charge of the work. It is understood additional tests will be put down.

Oil City Field

In the old Oil City Field, Waterton Lakes Park, Oil City Royalties' No. 1 Patrick, Section 30-1-30w4, is down 1,800 feet in hard formation. Gas showings and a little oil have recently been encountered.

Cardston Gas Test

On the Cardston structure, southern Alberta, Cardston Gas & Development Co.'s No. 1 has been located in LSD 6, Section 5-3-25w4, 2 miles west of the town. Drilling will be handled by Franco Oils, Ltd., with Chris Bennetsen in charge. It is planned to market the gas to Cardston, where the Cardston company has secured a franchise.

Hudson's Bay Dismantling

It is reported Hudson's Bay Oil & Gas Co. is dismantling its outfit in the Keho Lake Field. Hudson's Bay's No. 1 Keho, LSD 2, Section 17-11-22w4, has been taking a very small crude production from a stray sand in the Benton shale formation at 3,777 feet, after plugging back from the Madison lime where oil and gas shows failed to develop commercial production. This step apparently marks the conclusion for the time being of the efforts of the Hudson's Bay Oil & Gas Co. to develop commercial production in Alberta. The company was organized some years ago to test acreage held by the Hudson's Bay Trading Co., both that company and the Marland oil interests being concerned. The Marland later gave place to the Continental Oil Co.

A number of tests were drilled on promising structures in various parts of Alberta where Hudson's Bay company held acreage. On the Paintearth Creek structure, near Castor, Hudson's Bay Oil & Gas Co.'s No. 1 Paintearth, LSD 5, Section 27-39-14w4, finished a dry hole. This outfit is now being dismantled. Some 20 structure tests were drilled in this area. In the Champion district, the company drilled five shallow structure tests in the Little Bow area and 39 on the Champion structure. In the Eyremore area, 21 test holes were drilled on the Big Bow structure and 61 on the Eyremore structure. Hudson's Bay's No. 1 Eyremore, LSD 1, Section 26-17-18w4, was abandoned at 940 feet owing to difficulties, and No. 1-B finished dry at 5,768 feet, after drilling through the Madison lime into the Devonian. Numerous small oil and gas shows were met. Hudson's Bay's No. 1 Highwood, on the Highwood structure, LSD 8, Section 1-18-3w5, finished in the Madison lime at 4,067 feet encountering numerous gas shows and two oil shows, but failing to get commercial production.

In the Viking Field two tests were drilled for gas under arrangements with Northwestern Utilities, Ltd., which took the production. Hudson's Bay's No. 1, LSD 5, Section 8-49-12w4, and No. 2, LSD 8, same section, finished satisfactory producers in the Viking sand around 2,150 feet. No. 1 was deepened to the Madison lime, bottoming at 3,039 feet but getting no additional production.

Border Fields

In the Skiff Field, southern Alberta, work has been started on Devenish Petroleums' No. 5, LSD 4, Sections 27-5-14w4, offsetting No. 3 producer.

British Columbia Test

In the Sage Creek area, southeastern British Columbia, Columbia Oils' No. 1 is reported running 10-inch casing to 1,900 feet.

Drilling in Saskatchewan

In western Saskatchewan, Twin Provinces Oil Co.'s No. 1, south of Cummings and a little east of the old Many Island Lakes Field in southeastern Alberta, is below 600 feet, with some traces of oil and several light gas shows.

On the Dirt Hills structure, 50 miles southwest of Regina, Pine River Petroleums' No. 1, LSD 8, Section 23-12-24w2, has resumed at 2,938 feet with S.W.S. Drilling Co. of Edmonton handling the contract. Dr. J. O. G. Sanderson is on the ground representing Highwood-Sarcee Oils, Ltd., of Calgary who are financing the test.

Aladdin Oil & Gas Co. of Regina is reported preparing to resume work on its deep test on the Pilot Butte structure.

Ontario Drilling

The Rockton Oil & Gas Syndicate, headed by J. Harry Smith of Petrolia, Ontario, will drill a test at Rockton, Ontario, on the Mrs. William Burgess farm on the Galt-Hamilton Highway, not far from the line between Wentworth and Waterloo Counties. Geological reports indicate oil may be found at 1,000 feet. The area has never been tested.

In the Dawn field, Lambton County, Union Gas Co.'s No. 76 has been located in Lot 26, concession 5, Euphemia Township, and is in north of Shetland, where Castle Oil & Gas Co. drilled wells more than 10 years ago.

MRS. JAMES C. VIDEAN DIES

PETROLIA, Ontario, July 28.—Mrs. James C. Videan died here recently, aged 67. As a young woman she married the late Benjamin Hayden, a well known driller, who spent a number of years in Australia. After his death she married James C. Videan of Petrolia, also a well known oil man, about 15 years ago.

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